

# THE CALCUTTA REVIEW.

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## ART. I.—THE GREAT ANARCHY.

*Stories of the Adventurers in Native Service, in India, during  
the latter half of the 18th Century.*

*(Continued from No. 216—April 1899.)*

### CHAPTER VI.

WE have seen, in observing the military career of General de Boigne, how the secular contest between cavalry and infantry developed in India, where the mediæval ideas of warfare lingered after they had been dispelled in more progressive regions. The tactics which had been originated in Europe by Edward III, proceeded on the experience which showed that a man is a better fighter than a horse. If a line of spikes holds firm, and is supported by a continuous discharge of missiles, the horse will not charge home, let the courage of the rider be ever so high. But, to produce these conditions in the infantry, the foot soldiers must be self-respecting men, thoroughly well-disciplined and commanded. We have seen what, in the opinion of contemporaneous journalists, had been the moral evolution of the Indian soldier in the New Model ; it is therefore proper that we should now endeavour to learn something of the subordinate officers by whose help that result had been obtained. In this attempt we can fortunately command the aid of a competent writer who was himself a member of the force. In treating of General de Boigne, the testimony of a newspaper correspondent who used the signature of "Longinus" was cited above ; the true designation of whom was Louis Ferdinand Smith, Major in the army of Sindhia.

The account of some of the more remarkable of these officers of fortune published by Major Smith was brought out by subscription in Calcutta, without any date upon the title-page, but apparently about the year 1804, and subsequently reprinted in London. Many of the names on the subscription list are those of men who afterwards found honourable mention in Anglo-Indian history ; among them being those of Sir John

Anstruther—the then Chief Justice—; of Sir George Barlow—afterwards Governor of Madras—; of Becher, Boileau, Colvin—familiar as founders of well-known Indian clans—; of others of like type; of General Ochterlony, and of the Marquess Wellesley, who at that time ruled the Indian Empire as then constituted. The little work has only some ninety pages; but it is a workmanlike piece, illustrated with well-drawn plans of battles; and it bears the title—"A Sketch of the rise, progress, and termination of the Regular Corps formed and commanded by Europeans in the service of the Native Princes of India." It is to the information which it gives that we shall be indebted for almost all that we can learn upon the subject, in the way of biographic fact, in this Chapter.

Most of the officers referred to were Frenchmen who had originally come out to Pondichéri with Lally and been left to seek their fortune after the collapse of the French enterprise in 1760. Of such were Médoc (of whom some account has been given already) as also Martin, Sombre, St. Frais; probably Du Drenec, and Perron; certainly Law.\* What was to be said of these also has been said; excepting Perron and Du Drenec. At a later date appeared the Hessings—Hollanders; the Filoses—Neapolitans; and, of Britons and Anglo-Indians, the Skinners, Gardner, Shepherd, Sutherland, Davies, Dodd, Vickers, Bellasis and the brothers Smith. Most of these were, sooner or later, in Sindhia's service; but the greatest of all, George Thomas, fought for his own hand, like Hal of the Wynd, and his exploits are accordingly recorded separately here.

Of the Chevalier du Drenec there is not very much to note; his very name is uncertain, one calling him Dudernek, another Dodernaigue, according to phonetic interpretation of native usage. He seems to have belonged to an ancient Breton family—now extinct—known in provincial history as "Du Drenec-Keroulas;" he did not enter life in the army, but came to India as *Enseigne-de-vaisseau* (Midshipman) about 1773. French power and influence in the Indian seas were at the lowest at that moment: when the Treaty of Paris (1763) had, indeed, "restored Pondichery to France, but it was a Pondichery dismantled, beggared, bereft of all her influence. During the fifteen years which followed. . . . Pondichery had been forced to remain a powerless spectator of her rival on Indian soil."† Not finding encouragement in so depressed a service, the young sailor quitted his ship and made his way up the country where he joined his countryman, Medoc, and

\* For a brief notice of these men about 1764, see Broome's *Bengal Army*, p. 419.

† Malleeson's *Final French Struggles*. pp. 3-4.



they both engaged in the imperial service under Mirza Najaf. On the departure of Médoc, the Chevalier also vanished from the scene in Hindustan ; whether in a return to Europe or in wanderings about India, we have no information. At length, in 1791, we hear of him as retained to raise a body of foot, by Tukaji Holkar, then engaged in an attempt to emulate the success of Madhaji Sindhia. The force of Du Drenec consisted of four battalions ; but before it had been completely trained, it was unfortunate enough to encounter a strong detachment under General de Boigne in person. Almost everything was against the young legion ; the fame and prestige of the enemy's leader, their own inexperience, and the smallness of their numbers. But Holkar had political reasons for desiring to invade the territories of his rival. In June, 1792, Sindhia had set out on his last journey to Poona, where he became engaged in a struggle for favour with the astute Brahman, Nana Farnavis ; and he had sent for a strong body-guard of regulars ; weakening his local army by 10,000 of his best men. The moment seemed to Holkar full of promise ; summoning Ismail Beg from his temporary retirement, he hurled his cavalry on northern Malwa ; the new legion, with a strong artillery, acting as the nucleus of the force.

The first counter-stroke was delivered at a strong place called Kanaund, in the northern part of the arid tract that lies between the capital and the borders of Haryana. Here the client of Mirza Najaf, who has been already mentioned as a converted Hindu called Najaf Kuli Khan, had just died in a stronghold of earth faced with stone, among sandhills and low growths of tamarisks, where his widow—a sister of the late Ghulam Kadir—continued to reside. Ismail Beg—who was an old ally of the family—flew to the aid of his deceased friend's sister ; and a column under Colonel Perron marched to besiege the place. Some account of the siege will be found in the story of Perron, later on ; at present we have only to notice that Holkar's army advanced at its best pace in the hope of relieving Kanaund and raising the siege. De Boigne, bent on frustrating this design, came against them ; and the two forces met in September, 1792, at Lakhairi on the road leading from Ajmere. The Mahrattas were posted on ground well-chosen : the guns and infantry being on the crest of a pass ; a marsh covered the front, the sides being flanked by deep jungle and trees, and protected by no less than 30,000 Mahratta horsemen. The action that ensued was considered by Boigne the severest in which he was ever engaged. As he led up his battalions, he was exposed to a terrific fire from Holkar's batteries ; and his own guns, on the support of which he had relied, met with unexpected misfortune ; the marsh impeded

their progress ; and, as they advanced slowly under the enemy's fire, they became rapidly disabled. First, a tumbril was hit by a hostile ball and exploded ; this explosion communicated itself to the next carriage ; in a short time a dozen ammunition-wagons were on fire, scattering around the whole of their contents. With rapid instinct Holkar caught the flying instant, and sought to charge the guns, by extricating his squadrons from the protection of the jungle. But even in that terrible crisis the influence of discipline prevailed ; the seasoned battalions of the enemy breasted the hill in face of all obstacles, firing from flank and rear at the encumbered cavalry. Mahratta horsemen were always better at scouting than in a pitched battle ; Ismail, with his men-at-arms, might have led an effectual charge ; but Ismail was engaged elsewhere. As Holkar and his light horse withered under the fire of Boigne's musketeers, they were charged by the Moghul cavalry, few in number, but superior in equipment and weight : the whole force was quickly dispersed. Delivered from these dangers, the column resumed its advance up the pass, held tenaciously by the batteries and battalions of Du Drenec ; raw levies as they were, they did credit to their leader ; the European officers fell at their posts—with the exception of their leader—the men were shot or bayoneted where they stood ; thirty-eight guns were lost. It was the first encounter between two bodies imbued with the same discipline ; the scale had been turned by the inefficiency of Holkar's horsemen ; but Du Drenec had covered himself with whatever glory was obtainable in such fields.

Escaping from the slaughter, which ceased on the cessation of resistance, our adventurer did nothing more for some time, beyond taking part in the campaign in the Deccan which ended with the battle of Kardla (1795). As we have no particulars of his conduct on that occasion, the description may be postponed till we come to notice the career of Raymond, who commanded on the side of the Nizam. The next time of meeting the Chevalier is in 1799, when he was on the winning side at the battle of Sanganir, though temporarily involved in a catastrophe that—as at Lakhairi—left him almost sole survivor of his force. This was the last (or almost the last) of the fights between the princes of Rajputan and the head of the house of Sindhia—once quieted by Boigne, as we have seen. That able officer was now in retirement—we have noted the new Sindhia's letter vainly attempting his recall. The chief command in Hindustan had devolved on a native General called Lakwa Dada ; the Chief being away at Poona, and Jaipore joined to Jodhpore in a renewed rebellion. So formidable appeared this outbreak that Ambaji Ainglia was deputed to the Dada's aid, taking with him a strong brigade of disciplined foot commanded by Du Drenec :



the whole force consisted of six brigades of infantry with the due artillery, 20,000 Mahratta horsemen, and a motley contingent of irregular spearmen on foot. On the Rajpoot side was an infantry far inferior; but there was also a noble force of 50,000 heavy cavalry, the fighting Rathors of Marwar of whom we have already heard. Sanganir, where the encounter took place, is the name of a small place situated on the sandy plain west of Jaipur city; and here the troops of Sindhia attacked the Rajputs one March morning in 1799. But the Rathor horsemen were on the alert; and, under command of Siwai Singh—a henchman of the Jodhpore Raja—, charged furiously down on the intruders, the brigade of Du Drenec, who had endeavoured to surprise their morning slumbers. The scene of Mirta was now reproduced, with very important variations. More than 10,000 in number, the Rathor cavaliers trotted their horses out of the lines, while the battle began to rage in other quarters. Du Drenec prepared to receive the charges, with squares formed and field-pieces belching grape from the intervals. But the Rathors would take no denial, the trot became a gallop as they drew near, and the noise of their onward rush was heard—says an eye-witness—above all the roar of the battle. Regardless of the grape-shot, riding over fifteen hundred of their own front ranks laid low by the fire of Du Drenec's infantry and field-pieces, they pressed on with increased momentum. Neither the fire of the grape-loaded cannon nor the glitter of the bristling bayonets availed to check the charge. Like a storm-wave it passed over the brigade, leaving scarcely a vestige of life in its track. Du Drenec was flung under a gun-carriage; almost all his Europeans lost their lives on the spot. Nevertheless the day of heavy cavalry had departed; science and discipline asserted themselves in spite of headlong valour; the Rajpoots were finally put to flight with almost incredible carnage; that single action decided the campaign.\*

Du Drenec—perhaps in consequence of these defeats—left the service of Holkar and joined Perron at Aligarh, where his house is still in existence and serves as the Court House of the District Judge. In September, 1803, (when Lake advanced from Cawnpore) Du Drenec was absent, having been posted at Poona, in command of 5,000 men. Ordered to Hindustan, he started to obey; but by the time of his arrival at Muttra he heard of the fall of Aligurh and Delhi, and of the march on Agra; while he found his troops suspicious of their European officers. In these trying circumstances the Chevalier adopted the wisest course open to him, surrendering to Colonel Vandeleur, of the 8th Dragoons, in company with Major Smith—

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\* This account is condensed from that given by Colonel Skinner, C.B., who was present with Sindhia's army.

our author—and another white officer. The British authorities gladly permitted them to go into private life, with all that belonged to them ; Du Drenec seems to have settled in the country ; for Smith (in the book referred to) mentions him as having been thirty years in India and being still there while he, Smith, was writing.

In the battle of Kardla—to be noted presently—, where the power of the Deccan Moghuls was temporarily broken by their Mahratta neighbours—, the victorious side, on which Du Drenec fought, was opposed by an equally brave and more distinguished French officer. Although the Nizam's Regulars were unable to achieve success, the fault was by no means theirs ; and their commander was a meritorious man, said to be still commemorated by the natives of those regions.

In what line of life Michel Raymond was bred is not recorded ; but he was a native of France and came out to Pondicheri in a mercantile firm. In 1778 Great Britain declared war with the French Government who were openly abetting the revolted Colonies in North America. On receipt of the news the authorities of Fort St. George sent a force to besiege Pondicheri, which capitulated after a respectable defence ; and Raymond (with a nephew of Count Lally, and other adventurous men) repaired to Mysore, where he enrolled himself in the service of Haidar Ali, the usurper of that State, and irreconcilable enemy of the British. In 1783 the famous Patissier, known in Indian history as "Marquis de Bussy-Castelnau," had returned, under orders from Louis XVI., to the country where he had won so much distinction twenty years before ; and he was now, with shattered health and a mind enfeebled by years and slothful living, engaged in a hopeless contest with Sir Eyre Coote. Raymond's old employer, Haidar, having just died, the French adventurer was free to accept a post on Bussy's staff ; and, on Bussy's death, two years latter, Raymond betook himself to the capital of the Nizam, where he obtained a high command. Up to this time Raymond had won no great distinction as a soldier ; but he had temper, character and talent, all of which had become known and raised him to a similar position at Haidarabad to that which Boigne was soon to create for himself in the North. He gradually got together a respectable force of 15,000 regular infantry, with no less than 124 superior officers, all of European blood.

To mature this force was the work of seven or eight years, during which Raymond worked with very great success. At length, on the 10th of March, 1805, he marched from Bidar, with the army of the Nizam, mustering 70,000 irregular infantry, supported by 20,000 horsemen and a due proportion of artillery, under command of French officers. To meet this invasion the



Peshwa had assembled a force estimated at 100,000 of all arms, including ten of Sindhia's trained battalions under Perron, four under Du Drenec, contributed by Holkar, with other similar contingents commanded, respectively, by Hessing, Filose, and Boyd, of all of whom we shall presently have a word or two to say. The armies were thus equally matched in all respects; nearly equal in numbers and organisation; each animated by the presence of good European officers. The encounter occurred at a place two marches to the South-West of Poona, which city would be at the mercy of the Moghuls if they could prevail over the Mahratta army. This latter was encamped on the slopes of the Purindha pass; the artillery being skilfully disposed on the heights above. The Moghuls had the disadvantage of having to advance from lower ground, occupying as they did the plain between the pass and the village of Kurdla: nevertheless there was sufficient ground for cavalry, by a bold use of which the Moghuls drove back the Mahratta right: Raymond's battalions on the other side advanced steadily under a heavy fire from Perron's guns; and the fight developed into a duel between the two Frenchmen, one endeavouring to storm the pass, the other determined to defend it. But the Moghul horse had fled in wild confusion under a tempest from the Mahratta rocket-batteries; and the aged Nizam, who—after the Asiatic manner—trusted only to his cavalry, insisted on retreat. Raymond's escort being essential to the safety of the Prince, he was obliged to retire; and the day was lost, although the retirement was effected in good order, and there was no pursuit.

Raymond's next service was in suppressing the rebellion of the Nizam's heir-apparent, Mirza Ali Jah, who seized upon the fortifications of Bidar, and collected a following of disaffected chiefs and disbanded soldiers which Raymond easily dispersed, in the month of June of the same year (1795). From that time he pursued his life of useful and faithful labour until his death, on the 25th of March, 1798, in time to be spared the pain of seeing the abolition of the trained force for which he had done so much. For the times were critical, and Lord Mornington, who had just assumed the office of Governor-General, which he was afterwards to render so illustrious under his later title of "Marquis Wellesley," had a grave combination to encounter. In the Punjab was an invading army of Afghans under Zaman Shah; in Mysore was the valiant Tipu, who had succeeded to the usurped power and to the anti-British policy of his father, Haidar. In Hindustan a French General had taken the place of the friendly Savoyard; in the Deccan an unscrupulous Mahratta traitor held power at Poona, and the Nizam was vacillating at Haidarabad. Tipu was in correspondence with

Zaman Shah and harbouring French adventurers at Seringapatam. Perron had sent a mission to the young General Bonaparte, then on the eve of starting for Egypt : it was impossible that the British in India could render theirs the paramount power, or could consolidate their empire, so long as French officers were predominant in the chief native courts. It is an injustice to ascribe to Mornington—as is often done by injudicious admirers—a conscious plan of conquest : judged by his own sayings and doings, his was a policy of peace and order. He wrote of “our alacrity to resist aggression and to punish all the Principals and Accomplices of unjust attacks on a Government uniting moderation with energy and equally *determind to respect the just rights of other States.*” Nor was his conduct inconsistent : only that the presence and influence of French Republicans from Seringapatam to Delhi was felt to be totally incompatible with the expressed intentions.

The Nizam was the least formidable of all the country powers ; and his Regulars under Raymond had never given the British Government trouble, while their officers had for years lived side by side with ours in neighbourly comradeship. But there is no place for sentiment in such a policy as Mornington’s ; a few weeks after Raymond’s death, his master was compelled to execute a treaty with the Company’s Government including a clause for the disbanding of the force. As there was to be a “Haidarabad Contingent” under British command, this clause virtually implied nothing but the discharge of the French officers. The practical part of the affair was entrusted to Captain (afterwards Sir John) Malcolm, who displayed on that occasion much of the combined tact and firmness which afterwards—with some allowances for a genial nature—made him the most famous of all the great soldier-diplomatists of the Anglo-Indian service. The French officers were sent to Europe at the public cost.

So ended the work of Michel Raymond ; but his memory remained. Colonel Malleon, who on the spot collected and digested almost all the facts, thus concludes his remarks : “No European of mark who preceded him, no European of mark who followed him in India, ever succeeded in gaining to such an extent the love, the esteem, the admiration of the natives. The grandsons of the men who loved him then revere him now : the hero of the grandfathers is the model warrior of the grandchildren. Round his tomb at the present day there flock still young men and maidens listening to the tales told by wild dervishes of the great deeds and lofty aspirations of the paladin to whom their sires devoted their fortunes and their lives.”\*

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\* *Final French Struggles in India.* London, 1884. See also Grant Duff’s *Mahrattas* II., 281.



The officers of Boigne's brigades, superior as they may have been in military experience, were in no case the equals of Raymond in ability or personal character ; and—with the single exception of the General himself—left no memory among the people. The character of the French officers also changed about the time of Boigne's retirement ; whether the vicissitudes of the Revolution had anything to do with the fact, or whether it was due to the constantly increasing supply of British-born adventurers, it would be hopeless to enquire and impossible to determine.

We have, however, a curious testimony to the low esteem into which the French adventurers had fallen in papers found in Tippoo's office at the taking of Seringapatam ; the character and conduct of the foreign officers of Sombre's brigade will be shown in the succeeding chapter. General de Boigne is only known to have employed two Italian officers ; and their record is far from exemplary. These were two Neapolitans, brothers named Filose, who were in command of 14 battalions at Poona when the elder Sindhia died, and remained there for some time afterward, as the bravos of local politics. Michele, the elder, was driven from the service for a treacherous outrage on the old Minister, Nana Farnavis, in 1797. His brigade was divided, one half being assigned to his brother Fidele, who (in spite of his name) entered into an intrigue with his employer's chief opponent in 1801. His treason being detected, he retired to Ujjain, where he terminated an inglorious career by cutting his throat. Other unworthy successors of Law, Medoc, and Du Drenec, will be noticed in the account of General Perron, the best of the new series.

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## CHAPTER VII.

We now come to a very different case ; that of a man of humble origin indeed, but one who only needed conduct to enable him to fill a splendid place in the Anglo-Indian pantheon : the old saying of Juvenal illustrated—"nullum numen abest si sit prudentia."

George Thomas was a native of Ireland, though not, perhaps, of purely Celtic origin, having been bred in Tipperary, where a number of Cromwell's Ironsides had been settled in the seventeenth century. Coming to Madras as Quarter-master of a man-of-war in the squadron of Sir Edward Hughes, he deserted in 1782, after the four inconclusive engagements fought in those waters between that Admiral and the Bailli de Suffren. After an obscure period of adventure among the Poligars of the Carnatic, he appeared at Sardhana, where the relict of Sombre, known in Indian history as the "Begum

Somru," was holding the fief that had been allotted to that General for the maintenance of his legion in the imperial service then administered by Sindhia. That remarkable woman was destined to have a considerable influence on the career of Thomas; and no picture of the Anarchy that preceded the British occupation of Hindustan could have any pretence to completeness if it did not contain some notice of her singular fortunes.

Sombre, as we have seen, died at Agra in 1778: he was buried under a masonry canopy which is still to be seen in the Catholic cemetery there, his tomb bearing a Portuguese inscription. He left an insane wife and a son still in early childhood; and his fief was assumed, under an authoritative grant, by a favourite slave-girl, whom he had purchased at Delhi: she is believed to have been born at Kotana in the Meerut District, and to have been of Arab origin.

The new Princess was—in any case—of Moslem birth, but apparently found it convenient to conform to the creed of her protector, three years after whose death she was baptized along with her stepson (7th May, 1781). She then settled with her brigade at Sardhana, a village near Meerut; and it was there that Thomas entered the service, in which he soon attained great distinction. In the spring of the terrible year 1788—famous for the temporary triumph of Ismail Beg and Gholam Kadir Khan with the horrors which ensued—the Emperor Shah Alam undertook a futile expedition into the country between Delhi and Ajmere. Thomas accompanied, in command of the Sardhana contingent: and the Begum joined personally in the expedition. On the 5th of April the army halted to besiege Gokalgurh, in what is now the District of Gurgaon. This was a strong place occupied by the converted Rajpoot, Najaf Kuli, already more than once mentioned; and he had gone into rebellion against the decrepit Government, for which conduct it was desired to bring him to account. On the arrival of the Imperial forces the garrison made an immediate sortie; and the Moghuls, taken by surprise, were thrown into great confusion. The assailants penetrated to the centre of the camps, near where the imperial standard had been erected in front of the tent in which the Emperor was reposing. With rapid resolution the Begum hastened up in her palanquin, attended by Thomas, with three battalions of infantry and a field-piece. Deploying, as best he might, and with his cannon manned by European gunners in the centre, the Irish seaman covered the imperial abode and pelted the rebel horsemen with musketry and grape. Surprised in their turn by so unexpected a reception, the enemy wavered, hung back, and, when a body of Moghul cavalry



had come to the spot, were finally repulsed. The Emperor's person was saved, the defence so boldly begun turned into a rout; the place was carried in the rush of the pursuit, and the credit of the day was justly awarded to the valorous lady. In the Durbar that was held in the afternoon, the Begum was publicly thanked by the Sovereign, and honoured with the title of *zeb-un-nissa* ("Glory of the Sex"), which she ever afterward continued to bear, along with that of "Joanna Nobilis," bestowed on her by the Church at her baptism.

At this time the Begum was still in the prime of life; and, according to the description given at a later period by Thomas, was distinguished by a plump figure and fair complexion, with large and lively eyes. Though of pure Moslem blood and always dressing in native costume, she had partially adopted European manners, and sate at table unveiled. It was natural that a lady so rich and otherwise gifted should receive admiration from the soldiers-of-fortune by whom she was surrounded, and perhaps be the object of selfish aspiration.

The brigade, at this time, consisted of five battalions, a regiment of Moghul horse, with 40 pieces of artillery; it contained three hundred Europeans of whom the majority were gunners, and the officers not, perhaps, all of much higher social standing.

After the Emperor's return from his abortive campaign—for the capture of Gokalgurh was the only success—he returned to Delhi and there underwent the terrible experiences of which mention has been already made. The Begum took her brigade to his help; and once succeeded, for a few weeks, in delivering the poor old man from his tormentors. But when she had departed, Gholam Kadir returned, accompanied by Ismail Beg and a force too strong to be successfully attacked; and the imperial tragedy went forward. For the next four years no Sardhana record is forthcoming; but it is possible that Thomas was a candidate for the lady's favour, though ousted by the superior attractions of a rival. In any case it is certain that in 1792 Thomas left the service, and that the Begum, about that time, bestowed her hand on M. Levassoult, a French officer whom she had put at the head of the brigade. She was married by the rites of the Romish Church, unfortunately in a somewhat clandestine manner; but the bridegroom was wise enough to provide two witnesses, countrymen and brother-officers, named Bernier and Saleur.

Thomas, meanwhile, had quitted the Sardhana service, and betaken himself to Anoopshahar, where he became the guest of the officers of a British Frontier Force which was maintained there under a treaty with the Nawab of Oudh, in whose territory it lay. The place is now a decayed town, on the

right bank of the Ganges, which eats it, year by year: but the numerous graves (from which all the memorial tombstones have long since disappeared) are a silent testimony of its former importance.

Settled here, under the protection of Col. MacGowan, the British Brigadier, Thomas lived a pleasant life as long as his savings held out. Then, under the pressure of necessity, he was compelled to look about for means of livelihood. He accordingly took measures to acquaint the neighbouring nobility and gentry that he was prepared to execute orders for rapine and slaughter; and ere long obtained an engagement from a Mahratta chief, one Appa Khandi Rao, who had been in charge of the Gwalior District but whom Sindhia had lately, for some reason or other, seen fit to discharge. This chieftain was now preparing to take part in the game of grab that was already—had he known it—almost on the point of abolition; and he engaged Thomas and his small following, with orders to raise a small body of horse, and one thousand foot, the reversion of certain lands—to be occupied hereafter—being assigned as a material guarantee for the equipment and pay of the little legion. The country thus bestowed was not only not transferable to the possession of the donee, it did not even belong to the donor. It belonged, in a strictly legal sense, to the sovereign—that is to the Emperor at Delhi; in another derivative, but equally lawful, way it belonged to the Alwar Raja, to whom it had been assigned by imperial patent; finally, it was actually in the possession of the Mewati tribe. Of these last the memoir of Thomas only deigns to observe that “when a large force was sent against them, they usually took shelter in the mountains; but, when the force was inferior in numbers, by uniting they proved victorious.” By this unreasonableness and contumacy the Mewatis of these parts had incurred the displeasure of Appa Khandi; who, conceiving himself entitled to their surplus produce, availed himself of the Irish sailor’s help to bring them to a better frame of mind. Agreeing to balance accounts every six months, and furnished with two guns and a store of ammunition, George departed to kill the bear whose skin had thus been conferred upon him.

While Mr. Thomas (as his biographer is always careful to call him) was thus whiling away the shining hours, his former princess was going through a stimulating experience.

Mention has been made of the rough and lawless character of too many of the late General Sombre’s officers; the greater number of them, indeed, were most illiterate ruffians who bitterly resented the airs and graces of their new master, by whose wish they were excluded from the dinner table of the Begum, and generally kept at a distance. They affected also



to be scandalised at what they perhaps honestly regarded as a mere intrigue *à la Catherine Deux* ; and in all their discontents they were egged on by taunts and promises from a scheming rival. This was Aloysius Balthazar Reinhardt, son of the deceased General by the Moslem wife, whose crazy brain he would seem to have inherited. This youth had for the last few years been residing at Delhi, wearing native costume, and bearing native titles, being known there as "Nawab Zafaryab Khan, Muzafar-ud-daula." Prominent among the mutinous officers was a Walloon called Liégeois—whether it was a real name or not, some of his descendants continued to bear it down to recent times under the slightly altered form of "Lezwah." This man, in constant communication with young Reinhardt, worked upon the simple minds of the soldiery, till almost all were ready for any act of insubordination.

The occasion was not to be long awaited. In 1794 Thomas had so far effected the conversion of the ill-advised Mewatis as to extort from them an agreement to pay up one year's land-revenue, besides obtaining possession of Tijara and Jhajar, two of their chief places. He was making preparation to attack the neighbouring fort of Bahadurgurh when he was suddenly recalled by the news that Levassoult was moving in his rear with the troops of his old employer, the Lady of Sardhana. Unwilling to risk a present and certain defeat if, with his ill-trained and raw levies, he encountered a large and well-disciplined force, Thomas fell back upon Tijara, leaving Levassoult to get what he could out of the unfortunate Mewatis. In this place—Tijara—Thomas remained unmolested, until summoned to the relief of his master, Appa Khandi Rao, who was in durance, in his camp, by reason of a mutiny. Hurrying to the spot, the faithful mercenary availed himself of the cover of a dark and rainy night to withdraw the Rao from a disagreeable and dangerous position ; and Thomas escorted him to Kanaund, a strong place, already mentioned, of which we shall hear again later on.

For this piece of service the Rao showed a genuine, but not perhaps very expensive, form of gratitude, adopting Thomas as a son, and endowing him with valuable estates—belonging, doubtless, to other people, but not the less generously offered. About the same time the agents of Sindhia at Delhi gave Thomas the first of several invitations to enter the imperial service ; invitations which the Irishman was always too independent to accept, and of which the refusal ultimately caused his ruin.

Meanwhile Levassoult had made a direct attack upon Jhajar, named above as the second of the towns held by Thomas

in the Mewati country ; but, while the latter was doing his best to meet the storm, it was rolled back by a sudden outburst elsewhere. Liégeois had at length succeeded in seducing from their allegiance the troops left in cantonments at Sardhana ; and now Levassoult had to hurry home to protect his wife, who was threatened with violence there. In May, 1795, Liégeois repaired to Delhi, and there placed before Aloysius Reinhardt an agreement by which—with signs and crosses in lieu of signatures—his unlettered associates had bound themselves, in the name of the Holy Trinity, to do as Aloysius might command. As soon as the Begum and her husband had wind of what was doing, they appealed to the British Governor-General for advice and assistance ; and received for answer permission to repair to Anoopshahar, on the other side of the Duab, and put themselves under the protection of Brigadier MacGowan.

In these anxieties the hot summer months passed, until the threatened couple had completed arrangements for escape from their perils. Having obtained the necessary authority from the Governor-General and from Sindhia, they departed from Sardhana in the dawn of an October morning ; the Begum in her palanquin, and Levassoult on horseback ; they also carried with them portable property and specie which conduced to the frustration of the whole plan. Scarcely had they advanced three miles upon the way to Meerut when they saw dust-clouds rising behind them and guessed that their flight had been discovered and that they were followed by pursuers eager for the spoil. They therefore parted, with an agreement that if either should be slain, the other would not survive. Levassoult led the way, urging the groaning bearers of the treasure-chests to hurry on ; but the pursuers came on fast ; the litter was arrested ; and the Begum, in sudden impulse, stabbed herself with a dagger. An attendant ran forward screaming and waving a bloodstained kerchief torn from the neck of her mistress ; at sight of which Levassoult put a pistol to his head, drew the trigger, and fell lifeless from his saddle. The rebels turned back with the plunder, carrying the widowed Princess with them ; her stiletto had not touched a vital part, and she soon recovered : but it was to find herself the prisoner of her abandoned stepson. Aloysius assumed the command, plunging forthwith into the frantic debauchery in which he and his ruffianly companions found their ideal of bliss ; while the wounded Begum lay in the courtyard, tied to a gun, and only kept alive by the ministrations of a faithful Aya.

We have mentioned that a French officer named Saleur had been a friend of the deceased M. Levassoult and a witness of



the too private marriage. This man, who had held aloof from the proceedings of his fellows, now bethought him of the ill-used Irishman ; and, by a lucky chance, Thomas, in pursuit of his own plans, had moved his camp to no great distance. Saleur therefore sent him a report of what had happened, with a prayer for help. The gallant seaman, without a moment's delay, replied with a strong written remonstrance to his former comrades, pointing out that if they persisted in their present conduct, or presumed to injure the Begum, Sindhia would certainly disband the brigade and probably put them all to the sword. Swiftly following his message, he appeared at Sardhana, at the head of his *Khas Risala*, or mounted body-guard. The mutinous officers, ashamed of their late orgy and already weary of their new commander, alarmed by the reasonings of Thomas and swayed by a handsome *douceur* out of his generous munificence, returned to their allegiance. Aloysius was made prisoner and sent back to Delhi ; and the restored Begum—though she never repaid the £20,000 which Thomas had expended on her liberation—never again gave way to the temptations of Hymen. Saleur in future commanded the brigade.

This romantic history rests on the evidence of James Skinner—of whom more anon—and exhibits our Tipperary mariner in a most favouring light, showing how gallant he was, how prompt and prodigal of purse and person. Meanwhile, Appa Khandi Rao had become hostile, whether from native fickleness or prompted by jealous rivals of the foreign employée ; and the position of the latter might have become one of much anxiety had not his adoptive father suddenly lost his reason and committed suicide by drowning himself in the river Jumna.

Thomas at that moment was engaged in an expedition against the Sikhs, whom he ultimately drove beyond that river ; and the power and property of the deceased Rao were, in his absence, assumed by the chief's nephew. It may be doubted how far the adoption of Thomas held good in Hindu law ; in any case, he was either unwilling or unable to assert his claims.

But he was now becoming a man of mark. The Sikhs—who at that time were no more than a predatory horde of badly-horsed marauders—had had what Thomas called “a sample of my method of fighting ;” and the Upper Duab had been entirely delivered from their unwelcome presence. But he was now looking out for fresh employment, and accepted an engagement under Lakwa Dada, one of Sindhia's best Generals, to raise and train a considerable body of horse and foot in the frontier-district of Paniput, the scene of old

campaigns. He got this second start in 1797, the beginning of a brief, but by no means inglorious, career.

It might, indeed, have ended in his entering the service of Sindhia permanently ; but, as we have seen already, Thomas was wanting in worldly wisdom ; and he preferred to run a solitary course, rather than plod on as a prosperous subordinate in a settled system.

De Boigne might have conciliated the cometary man and brought him into a regular orbit ; but that wise commander was now gone ; and the reins had fallen into the hands of a far less competent successor, a Frenchman of low birth and breeding whose proper name was Pierre Cuiller, but who now assumed the style of "General Perron," to whom a separate chapter will be devoted presently.

In the meanwhile we shall be content to bear in mind what has been said of the changed character of the French adventurers after the fall of the Bourbon monarchy. Up to that time the greater number had been cadets of good families seeking fortune by the aid of their swords ; but now men of much humbler origin appeared in India, seeking a share of the good things understood to be at the disposal of the brave and skilful. Perron, as will be more fully shown hereafter, was singularly unlike Thomas in some important respects, although in his first introduction nearly his parallel, having deserted from before the mast of a vessel in Suffren's squadron about the same time that Thomas left the adverse fleet of Admiral Hughes. But the times were such that the most commonplace plebeian had scope for the loftiest ambition in Indian fields ; and the dreams of Thomas were none the less likely to offend the views of Perron because of their romantic element. While Raymond was high in power at Haidarabad and Citizen Ripaud an ambassador between the Mauritius and Mysore, Perron may well have indulged in the framing of schemes in which he may have looked on the Irish seaman as a hostile element.

In the immediate present Thomas was giving but too much opening for criticism. When, in 1798, the Sikh danger had passed away, the Franco-Mahrattas at Delhi had no further use for him, and accordingly dispensed with his services. Consequently he and his followers had to adopt a predatory life in pain of starvation ; and it is to be feared that he was now little better than a dacoit defying the police. His admirers may regret to have to say so ; but the truth is paramount.

The fact is that Upper India was at this pass that every man was a law to himself. The landlords robbed the tenants, and the soldiers robbed the landlords ; the only wonder is that there was anything left for any one. "It is a matter of fact,"



so an official record assures us, "that in those days the highways were unoccupied and travellers walked through byways. The facility of escape, the protection afforded by the heavy jungles, and the numerous forts that then studded the country, with the ready sale for plundered property, all combined to foster spoliation."\* If this was the state of things at Aligurb, where Perron had his head-quarters with all the best troops of the Government at his disposal, what must have been the condition of the tracts between Delhi and the desert, where Thomas was now operating?

Returning to Jhajar, the chivalrous buccaneer soon broke new ground by leading his men into the territory of the Jaipur State, which lay on the South of his present barren country. Sitting down before a small place not far from Kanaund, he demanded a ransom of one *lakh*, but accepted half of that sum on the fort capitulating under threat of assault. In the course of these transactions an unfortunate accident set fire to the town, and all was lost. After some further depredations in Jaipur lands, Thomas returned to his head-quarters and began seriously to consider his future prospects.

It is probable that the district of Jhajar had not at times in itself the means of subsistence for even such a small body of men as he now commanded, during the time that must elapse before new engagements could be obtained. Sindhia's French officers, too, were not masters to his mind. Northern Jaipur had been ravaged: very possibly the forces of the State had taken possession of the wasted province: what was to be done?

The question was to be solved by the law of least resistance. On the Southern side prudential considerations barred the way; on the East the Delhi territory was under the direct sway of the French; on the West lay the arid solitudes of Bikanir. But to the North was a tract of over three thousand square miles, known as Haryana ("Green-Land") which was compact, capable, and without an owner. It contained many villages and small towns, with at least two more considerable places, both fortified; an ancient canal passed through, and to the N.-W. ran the river Caggar, leaving a deposit of fertilizing silt after each rainy season. But the soil was stiff, so as to depend upon irrigation for its fertility; and irrigation demanded constant labour, which had been rendered somewhat scarce by the ravages of a terrible famine that had depopulated the country in 1783-4.† Nevertheless the pasturage was generally

\* "*Aligurb Statistics*. By Sherer and Hutchinson. Roorkee, 1856."

† Some details of this visitation have been recorded by the present writer in a former work ("*Fall of the Moghul Empire*," 3rd, ed., pp. 146-7.) It was known, then and long after, as the *Chalisa Kant*.

good, the cattle were famous for strength and quality, and the people were hardy, though somewhat lawless by reason of pastoral habits and long anarchy. In the midst of the District lay the two cities—Hansi and Hisar—, the latter being built on high ground, and easily defensible. The failure of the water-supply had acted disastrously on these places ; the fort of each was in ruins ; and the streets were filled with squalid houses and clay huts.

( *To be continued.* )

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## ART. II.—THE MALABAR ONAM FESTIVAL.

**F**EW spots in the world possess a greater degree of interest for the ethnologist, the naturalist, the antiquarian, or even the merely observant traveller whose only object is to feast his eyes on the lovely work of the great Architect and Painter, than the beautiful old world region of Malabar—washed on its western boundary by the ceaseless waves of an ocean that from the remotest times has borne on its bosom the vessels and caracoles of the most enterprising maritime nations of all ages and continents, and guarded on its east by a sheltering range of mountain barriers which send down their dashing rivers and laughing streams to irrigate its alluvial valleys, its gardens and table-lands, and render them fertile, productive and beautiful. It is not Nature alone, as represented in roaring cascade or whympering burn, in gorgeous meadow or silent, sun-steeped glen, in waving rice-fields of soft green hue, that in Malabar is beautiful almost beyond compare. Even humanity in this little strip of Eden has its own singular sweetness and charm. The higher races of the wave-fringed province, chiefly the Nair or warrior class of old, possessed, even as far back as a decade of centuries ago, a philosophy and a civilisation so highly developed that they still evoke the admiration of Western peoples. At the same time, this system of civilisation was honey-combed with so many childish superstitions, so many absurd fallacies and delusive myths, that the casual observer hesitates to associate the idea of civilisation in any form with a people so profoundly steeped in sentiment and superstition, and these still continue to flourish in undiminished vitality throughout the length and breadth of the land. What are we to say, for instance, asks a great authority on Malabar, of a people who throughout a thousand years and more have been looking wistfully back to an event like the departure of their last sovereign, Emperor Cheruman Perumal, to Mecca, and whose rulers are still supposed to assume the sceptre, now, of course, no more than an empty honour, on the understanding that they simply hold it "until the Uncle who has gone to Mecca returns?"

Cheruman Perumal was a great, wise and beneficent monarch. Under his rule his people enjoyed peace, plenty, and prosperity, in a remarkable degree. But after he had held the sceptre for a long time, he suddenly conceived the idea of dividing his kingdom among his numerous vassals and of himself setting forth on a pilgrimage to Mecca. Not long after his departure the melancholy intelligence travelled over the

sea to his dominions, that he had abjured his ancestral faith and turned Moslem. That little circumstance, however, has never troubled his loyal and trustful subjects, or their descendants. "The Uncle," they say with tender confidence, "will return again to rule us. The Millennium will surely come."

Here, let it be noted, we find an ever present hope of the approach of that glorious age "when the kindly earth shall slumber lapt in universal law." Here we find, not that doubting creed which cannot rid itself of the idea that the goal is still far away, and that it is best to derive consolation by dreaming a dream that may never take material shape. Apart, however, from these his childish beliefs and superstitions, the Malayalee is possessed of characteristics that claim for him a high place in our esteem. Essentially pastoral in his habits, he has always displayed wisdom in the social, domestic and physical concerns of his life, and simple æstheticism in his choice of environment. On the margin of a fertile valley or ravine, with bright green fields of rice, stretching in billowy expanses from before his gate-way, he loves to select the site of his dwelling. Fair hills, draped in the loveliest of Nature's garments, lift their heads in front of his homestead and offer a supreme panorama for him to gaze upon. Melodious mountain streams descend the hill slopes, their gurgling music borne down by eastern breezes. Through gleaming vistas of woodland and dale come glimpses of soft, still waters bathed in the shimmering tropical light. A babbling rivulet that bickers down the valley, now through open spaces, now through brambly wildernesses of thorny Malabar holly, in the impenetrable thickets of which the waterfowl builds her nest and rears her brood, is skilfully turned aside to right and to left, high up in its course, in order that it may water the terraced rice lands and the carefully tended fruit gardens. Then the water, having served the purposes of the farmer, flows past his outer gateway and is made to answer his domestic needs and requirements. Thus, the simple, pastoral Malayalee adapts Nature to his uses with a skill which it would perhaps be impossible to improve upon.

In the matter of his feasts and festivals also, he has been no less felicitous in his arrangements, fixing his holidays at most appropriate and favourable seasons. For example, his great New Year festival called Vishu falls at the time of the vernal equinox. A few early showers—the advance forces of the South-west Monsoon—having fallen and cooled the baked earth, everything is freshly green and delightful for the eye of man, or bird, or beast to rest upon. The hardy meadow grass has sprung up everywhere with promptitude; the early and more daring feathered warblers have begun to appear in grove



and copse ; lively squirrels have resumed their music and mirthfulness and are leaping from tree to tree, delighted at the prospect of the mangoes soon ripening and the luscious jack bursting on the shady trees in the farmer's flourishing orchard. After a season of blinding dust and almost killing drought, during which the earth gaped for moisture, and the wán, withered foliage hissed plaintively for rain, when the world is again enrobed in garments that are a reflected vision, as it were, of celestial realms, it is certainly fitting that man should take upon himself to celebrate the coming of a New Year. But it is not of the Vishu that I would treat in the present paper. I propose rather to dwell at length on the revered and picturesque harvest festival of Onam. It falls at the time of the new moon in August-September. This is, beyond doubt, one of the most charming seasons in Malabar. For, perhaps, more than two months the South-West monsoon has been pouring down in torrents, flooding the villages, submerging the exposed rice lands, uprooting giant trees from the mountain slopes, enveloping hill and dale and barren moor in sombre, dispiriting and dense vapours. It has now rested for a while from its titanic labours, and an agreeable change has come over the spirit of Nature. The gracious green and light gold of the early tropical summer rests sweetly once more on the face of the land. In the meadows, and lanes and hedge-rows, by the margin of hurrying streams, the young grass has sprung up again and presents the appearance of a soft velvet carpet of the most refreshing green. Beautiful blossoms have opened out their glories on every side. In a little pellucid pool the lotus leaves rest softly on the bosom of the water, and the rich pink petals are unfolding under the influence of an ardent morning sun. Dragon-flies with multi-coloured wings of softest texture flit about among the flowers, and now and then there is a light splash in the water agitating its surface in widening circles, as a fine specimen of the *ophicephalus malabaricus* darts up from his cosy nook under a submerged stone to indulge in a breath of air. All around the margin of this little translucent pool, the red and black land-crabs are bustling about excitedly, perfectly unconcerned with the beauties of the purple lilies that grow about them in profusion. In the hollows of smooth caladium leaves the morning dew-drops lie like so many sparkling gems, which, when a whiff of breeze sways the leaves, slide up and down the smooth surface, enhancing their liquid beauties without destroying their rounded symmetry.

Away to east and to west, to north and south, wherever the rice field is not, and the homestead of the yeoman does not stand between Nature and her primeval freedom, there stretch rolling expanses of Cassia, the little yellow blossoms attracting

myriads of white and yellow butterflies, lively grasshoppers, industrious bees and swarms of other little insects that are rejoicing in the warm sunshine, and at the same time laying up their stores of provender against seasons of scarcity. Birds of gorgeous plumage or of rich powers of melody are singing everywhere in the sunny morning. On yonder headless coconut tree the black and white Malabar magpie sits and chants a song, the full-throated sweetness of which may be heard almost a mile away. He is the earliest of Malabar warblers. When the rest of the bird world is still asleep, even before the industrious crow wakens up to renew his evil courses, the magpie is up and singing in the raw morning with a display of conscious pride. One by one, the other choristers of the woods come out and join independently in the exquisite matin service. From a bamboo thicket comes the passionate song of the brown-crested bull-bull. The cooing of green pigeon and plaintive dove sound mysteriously amidst thick groves of mango. Hidden away in impenetrable copses of lantana, the little wrens are making a great hubbub with their quick chirrupy notes that lead one to fancy they are in mortal dread, when all the while it is only an exhibition of absolutely uncalled-for excitement over the discovery of a toothsome worm. The large-sized Indian woodpecker is tapping skilfully at every tree-trunk whose soundness appears to him doubtful. Orioles are hopping about from branch to branch in search of a morning meal. The Malabar thrush is singing sweetly, his long drawn note sounding for all the world like the whistling of a school boy. Surely, this the most appropriate season of all for the greatest of Malayalee festivals.

The Onam celebration varies in duration in different parts of the province, lasting but a couple of days in some localities and among some castes ; but in most cases, the celebration begins a week before the big Onam day (Tiru Onam) and lasts for two days later. A beautiful legend accounts for the origin of the feasts, and it is still implicitly believed by the simple people of the rustic parts of Malabar, where a matter-of-fact foreign civilization has not yet influenced the child-like simplicity and credulity of the inhabitants. Long, long ago, in an age, the history of which has been absorbed into the twilight of fable there reigned over Keralam a great monarch whose name was Maha Beli. Perfect truth and justice, sweet peace and universal good-will prevailed upon earth. The king was the father of his people, and his realm was an Arcadia, over which the angel of peace constantly extended his protecting wing. As in the happy village of Grand-pre, everything was soft and sweet and beautiful. The people dwelt in the love of God and man.



“ . . . . Alike were they free from Fear that reigns with the tyrant, and envy the vice of republics.

Neither locks had they to their doors nor bars to their windows.

But their dwellings were open as day, and the hearts of the owners,

There the richest was poor, and the poorest lives in abundance.

An old Malayan chronicle relates how men were all equal in the republic of Moha Beli. Equal happiness prevailed. No one feared his fellow; sorrow and suffering were unknown, and the death of the youth was unheard of. People lived to the age of thousands of years; all crops flourished with equal luxuriance; paddy yielded a hundred-fold in a soil of marvellous fertility. Evil men never existed; only good men lived in this golden age. The world was one even region of happiness. Each man lived in a beautiful home; everyone wore ornaments of the purest gold; there was no theft, no lying, no deceit, not even of the size of a grain of sesamum; weights and scales were never false; false measures were unknown; good rain fell seasonably.

After Maha-Beli had reigned for a considerable length of time, the gods in the skies began to envy him and his subjects, and Vishnu resolved to humble him and trample him in the dust, burying him in the dreadful womb of the nether world. With this object, Vishnu assumed the form of a hunch-backed dwarf, and contrived to appear before the king and beguile him into the belief that he saw before him only a forlorn youth, frightened in the midst of strange beings. Maha-Beli, with characteristic kindness and hospitality, asked the stranger what he would have; and even offered him of sweets and fruit; but the stranger politely declined the proffered gifts. “What may you want, then?” enquired the unsuspecting monarch. “Only three feet of ground.” Suspecting nothing, the king readily granted this apparently modest request. Even as Maha-Beli poured water into the palm of the dwarf, in recognition of the latter’s right to possess the little strip of ground asked for, the dwarf suddenly grew to such a size that one foot covered the king’s dominions, while the second covered every inch of the firmament above Maha-Beli’s dominions. Then the unhappy king realised, when too late, that he had been grossly deceived by no less a being than the great Vishnu himself. “Where shall I measure the third foot of ground?” thundered out the deity, in tones that shook the foundations of the world and rent the vault of Heaven. Bowing his head meekly and calmly, the monarch replied: “Measure it on my head, almighty lord!” And thus, the just and noble king was

trampled into dust, and driven down into the nether regions, a blameless victim of the envy and hatred of the gods.

This sorrowful cataclysm is said to have happened on Anam day in the asterism of Tiru-Anam, answering to the latter half of August and the first half of September. The good people of Malabar celebrate this solemn anniversary with mirth and rejoicings, because they believe that Maha-Beli, thoughtful of his people even in the moment of his downfall and destruction, contrived to wring from Vishnu a promise [to be allowed to return to earth once a year on Anam day in order to see whether his people continued to be as happy and contented and prosperous as they were in his day ; and, rather than that the kindly and unforgetting king should be grieved at the sight of sorrow and suffering, and at the sound of weeping and mourning, his grateful and beloved people carefully hide away for the time being all evidences of the degeneracy of the world. The natty, palm-thatched cottages nestling in the deep inviting shadow of groves of palm, mango and jack, are prettily decorated with flowers culled from lane and meadow. The effigy of the god Vishnu in clay is put up in every house and worshipped on each of the several days of the festival. At early dawn gay groups of little lads and maidens emerge from their homes to gather flowers. Each little one carries a tiny fibre basket suspended from its neck by a string. All up and down the country-side the children roam to cull the blossoms that abound on every hand, keeping up all the while a merry chorus that accords harmoniously with the voice of the morning breeze, and the melodious warble of the bull-bull and the magpie.

The songs they sing are seldom heard at any other season. They form, as it were, an inalienable feature of the celebration of Onam, just as other melodies have their own special seasons. In the Malayalam month which corresponds with November-December, the women celebrate a special festival of their own, when great long swings are put up, and day and night the women and girls, released from care for a brief spell, keep swinging all the time, singing, as they swing, songs that have a tender, touching sweetness. Then, when the intensely rainy month of Karkadam, answering to June-July, comes round, and all out door industries are out of the question, and man is compelled to keep within doors, you may hear, wherever you turn, pious Hindus singing solemn verses from the Ramayana. As for the ballads and glees that may be heard at Onam-time they are certainly sweet ; but the listener, cannot shake off a feeling that is almost akin to pain. I do not intend to maintain that this indefinable pathos is peculiar to Malabar music alone. Most Eastern music is stamped with this mark



of nebulous sorrow. Its essential attribute is to soften and subdue. It unconsciously steals away the sharpness of sorrow's sting. It is music that is in perfect consonance with the emotions of peoples who have from time out of history fed their souls on the food of fatalism. Eastern music, in its lighter mood, can do little more than produce in the listener what Wordsworth call a "calm passiveness." When we return to our Onam ballads and glees, the soft sadness of their strains takes hold unconsciously of our feelings, and, as will be seen from the specimen which follows, the spell of the song does not consist in its words, or in its meaning, for it would be impossible to say what the lyrist is driving at. The rendering which I give is as far as possible faithful to the cadence and versification of the original. The ditty opens with an address to a girl who has been visited by a generous swain, from whom she has received valuable gifts. As the song proceeds, the verses become nonsensical and unconnected with those preceding them. The meaning, real or allegorical, gets hopelessly unfathomable. The nonsense rhymes, like some of our own nursery favourites, fly off at a tangent from one theme to another, though the patriotic native seriously assures you that there is a mystic meaning in it all. But he invariably fails to enlighten your ignorance which you soon find is not more profound than his own. There are a great many of these Onam ballads; but most of them are of a piece with the specimen given. It is a delight to hear them chanted in the early morning hours by bands of light-hearted children with clear bell-like voices ;—

Chembil house maiden, little maiden,

What did he give you who yesterday came ?

A new dress he gave me, a small dress he gave me,

A lounge likewise on which to recline,

A tank to disport in, a well to draw water from, a compound  
To gambol in, a big field to sing in.

Freshen up flowers, oh freshen for me.

On the south and the north shore, in the compound of  
Kannan, there grew up and flourished a thumba flower  
plant.

Out of this plant were fifty boats gotten ; at the head of each  
boat a banyan tree grew.

From the banyan there grew a tiny little babe, and a drum  
and a stick for the baby to play with.

The drum and the drum-stick, the household domestic, all  
together they flew away and they vanished,

Freshen up, flowers, oh freshen for me.

A measure and a half measure, and elephant's chains and  
earrings, who goes under the flower tree beneath which the  
elephant passes ?

It is no one at all, it is no one at all ; it is the Kuttikat baby god ; when we went forth to pluck of ripe fruit, a mischievous urchin sprang up and bit us.

With bitten foot when we went to the Brahmin's, the Brahmin lady, we found, had been injured.

With bitten foot then we went to the house of Edathil, whose lady with fever lay stricken.

Freshen up, flowers, oh freshen for me.

At noon of Atham day a bamboo fresh sprouted, and therewith we made us a good fish trap.

And when to the tank a fishing we went, we baited a minnow.

By its tail did we hold it, on the *bund* did we dash it, and of cocoanuts, with milk full, eighteen we ground.

With elephant pepper we dressed it ; with *assafætida* we filled it, right up to the elephant's head.

Freshen up, flowers, oh freshen for me.

Having set out at dawn to gather blossoms, the little children return with their beautiful spoils by nine or ten A.M. ; and then the daily decorations begin. The chief decoration consists of a carpet made out of the gathered blossoms, the smaller ones being used in their entirety, while the large flowers and one or two varieties of foliage of differing tints are pinched up into little pieces to serve the decorator's purpose. This flower carpet is invariably made in the centre of the clean strip of yard in front of the neat house. Often, it is a beautiful work of art accomplished with a delicate touch and a highly artistic sense of tone and blending. Among the flowers that contribute to the exquisite design may be named the common red, as well as the rarer variegated, *lantana*, the large red shoe flower (*Hibiscus rosa Sinensis*) ; and, indispensable feature of the cultivated vegetation in a Malayali's homestead, the yellow marigold, the yellow aster, the scarlet button flower, the sacred *tulsi* (*ocymum sanctum*), the wee, modest *thumber* (a vermifugal member of the *Nepetæ* tribe), the common *tagara* (yellow wild cassia), the beautiful bluebell, another common species of *Cassia* which the natives call the "Onam flower." In addition, various little violet and purple wildlings that adorn the margins of rice fields, and beautiful specimens of the lily and allied orders of tropical plants are requisitioned by the weavers of these remarkably handsome, but, alas, quickly perishable, carpets. The carpet completed, a miniature pandal, hung with little festoons, is erected over it, and at all hours of the day neighbours look in, to admire and criticise the beautiful handiwork. This object is peculiar to the naturally well favoured province of Keralam ; and it serves to remind us that the people who possess the refined taste to produce such a pretty work of art must have long enjoyed a very high order of civilisation.



It may be mentioned here that in homes where the blessing of children is absent, the inmates call in orphan children from the neighbourhood and send them out to gather flowers for the carpet, and to assist generally in the indoor celebration of the feast, in the performance of the daily religious rites, in the preparation of meals, as also in the eating of them. These orphan children are rewarded with new cloths, it being indispensable that everyone should wear new garments during Onamtide. On Tiru Onam day, or the great day of the festival season, earthen effigies of the presiding deity of the Hindu pantheon are put up in every Malayali's home where Onam is celebrated in the true orthodox fashion. Little squares marked out with pigments are drawn on the floor, and the image is placed erect in them. On Makam day (16 days after the feast), after the performance of the usual three *pujahs*, the image is ceremoniously presented with a new cloth. In some parts of the district this ritual lasts only ten days. In fact, in different parts of Malabar the feast is celebrated differently, some of the distinctive features of the celebration being very pronounced. It is, however, as you go further south that you find how great and honoured an institution Onam is with the pastoral child of Malabar. Everywhere you meet people moving about with all the appearances of holiday-making. You hear music and laughter, and sounds of general rejoicing on all sides. Here, in a bosky dell, a little knot of lassies are singing sweetly some of the delightful Onam songs, that are so popular; there, seated on a stile is a lad of 16 playing on a little bamboo bow, from the single string of which he contrives to draw forth some notes of singular sweetness. In yonder substantial country mansion, with its shady fruit garden, its faultlessly clean courtyard and its gate-house—relic of the old warrior days of Malabar when at any moment a man may have had to speak with his enemies at the gate—there are groups of girls and women standing in circles in the verandah, clapping their hands, chanting beautiful hymns to Vishnu, now breaking into a graceful dance, anon chasing one another round the yard, or perhaps scampering away bashfully at sight of an approaching male visitor. And so on, the careless days of the festival glide by. No doubt, the heart of the great king Maha-Beli, who watches all these things unobserved, must be bursting with delight, for what does he see all around him but evidences of prosperity of a kind in which poverty is unknown, and what does he hear on all sides but the sounds of mirth and merriment? The glad summer sun shines brilliantly on the green and gladdened earth; man and bird and beast and flower and all combine make this world a scene of unalloyed happiness, just in order that the loving and unforgotten monarch might not be

disappointed at sight of a suffering people and a decayed world.

The day previous to Tiru Onam is indeed a great and important one for the Malayali. It is the day when rich and poor, great and small, the landlord and his tenant, the capitalist and the coolie, meet one another in a truly humanitarian spirit, and, by a cordial interchange of gifts and good wishes, proclaim for once that, in spite of the accidents of birth, man to man the world over are brothers still for a'that. It is, I may say, the Santa Claus day of the Malayali, for the children look forward eagerly for new cloths and jewels and lollipops and for freedom to roam about and do just what they like. Each and every member of the family receives gifts of new cloths from the head of the house, a pretty custom which, as we know, is carried out to this day, with some modifications, of course, in every well regulated German home. Early in the morning troops of cultivators and labourers pour into the front yard of the square, or *jeran*, bearing bunches of luscious bananas, and make their votive offerings to the great man, receiving in return useful gifts of oil, ghee, rice or new cloths. Handicraftsmen take newly-made articles as gifts to their employers, or to the laird of the village, and receive gifts of food in return. The agreeable task of making and receiving presents being over, religion again claims its share of attention, and the clay image of Vishnu is once again devoutly worshipped in every pious household. The outdoor celebration of Onam forms an unimportant part of the festival. It would, indeed, be strange were it otherwise in a country where manly sports and exercises have formed an essential part of the education of youth; where, in the ancient times of Rajah rule, the Malabar soldiery were among the bravest of the brave, when the warrior Nair went about at all hours armed to the teeth, with his comely head erect and dignified defiance in his gait and general bearing.

In riverain tracts regattas are held on the river and great excitement prevails. In every village a great tournament is held for several days on the village green. This tournament is called by such names as Onam Thallue (Onam beating) and Pada Kalli (war game). It is promoted by the leading men of the village. Champion wrestlers choose youths from among their disciples, and the rival forces meet on the green. One of the leaders sends out some young brave from his side to exhibit feats of skill and strength in view of an assembled multitude. The other side thereupon sends out one of its men, and a tussle for victory ensues. Then another couple, and then a third, and so on, go forth to sustain the reputation of the respective forces. The tournament becomes keener and more exciting as it proceeds, for each succeed-



ing couple is selected because of greater prowess and skill. Umpires are present to see fair play; but, in spite of this, and in spite of strict rules which do not permit blows to be delivered, the contest at times becomes hot, and the fun may turn serious and end in broken heads or limbs. After the tournament, the promoters of the exhibition reward their favourites with new cloths—a gift of a new cloth being the usual form of present which an inferior receives from a superior in Malabar. The tournament reaches its zenith on greatest day of the festival, and, while the males of the village are out watching its progress, or, mayhap, having a friendly bout in some quiet wayside tavern, the women remain at home singing songs and enjoying themselves in exactly the same simple fashion that their forbears did in the ancient times, centuries previously, when the celebrated Maha-Beli ruled the land and everything was peace and plenty and good will. Late in the evening, the women with great devotion, place the image of Vishnu on a miniature pandal made of jack-wood and take it and throw it into a neighbouring stream or pond. The men come home late in the evening for their meals, and, after they have been served, the patient, hard-working and submissive women sit down to eat. And thus one of the greatest of Malayali Hindu festivals comes to a close, and the useful native resumes the even tenour of an existence which for its simplicity is unsurpassed.

It is no mean task to describe the celebration of Onam as it takes place in every different community in Malabar. What most bewilders the foreign ethnologist who tries to understand the multitudinous social and religious institutions of Malabar, is the local differences which they present. No religious ceremony whatsoever be its importance or object, is celebrated in the same way in any two villages. Often the points of difference lead to much confusion. As regards the Onam, volumes could be written in describing the various local peculiarities that are observed in its celebration. The hospitable Nambudiri Brahmin landlord celebrates the festival by going in for extra religious devotion, and by keeping open house, and entertaining all sorts of Brahmins with sumptuous fare. The rustic toddy-drawer commemorates the festival by outdoor pastimes, good feeding and profuse floral decorations. While, in the historic barony of Kadathnad, in the north of British Malabar, the pretty custom of receiving and entertaining Oneiswaran, or the Onam god, is still much upheld. A man of the Panam or Malayan caste, dressed to represent Maha-Beli, starts out long before dawn, and runs along from house to house, ringing a little bell as he goes. The people of the village hear the bell and promptly open the door to wel-

come the visitor. Oneiswaran is attired in a truly fantastic garb. On his head he wears a high crown, shaped like a cone and made of the flower spadix of the areca palm. His limbs are enveloped in a cloth of red and white, and his body is painted with pigments of various colours. His hair is decked with wild flowers, and altogether it is a very eccentric and grotesque god indeed that he represents. But, doubtless, it is the old story once again, of Beauty and the Beast, told so eloquently in the earlier pages of Wyke Bayliss. It is not the garb that catches the eye, and its grotesqueness does not provoke profane or ribald humour. The villagers see, in the light of a faith that nothing has yet been able to shake, and through the glamour of beautiful superstitions, the King's Messenger in the ridiculous creature that runs round the courtyard once and then makes off to the next house. Oneiswaran is supposed to represent kingliness and regal splendour. He is supposed to bring back a vivid picture of an age when only beauty smiled upon this earth, when nothing that was ugly or repugnant to the eye marred the order and aestheticism of a pure and unsullied world. And yet, remarkable as it is, he is the only graceless thing amidst all the manifestations of loveliness. If, however, we remember the lesson that Art teaches, we shall find that there is nothing very surprising in this quaint eastern custom which permits ugliness, and all that is grotesque, to be a symbol of the perfect and the beautiful. Beauty is not always that which pleases the eye. Often, it is that which only pleases the mind. In many an august Roman Catholic Cathedral in Europe, it is not before the lovely painting of the Madonna by Raphael, that the devout pilgrim bows in ecstatic adoration, but before the unbeautiful, almost repellent picture of the Black Virgin; for, in Europe as in primitive Kadathnad, the message of beauty continues to come frequently in a quaint language spoken by a quaint messenger, who, for all his absurdity of form and manner, is never misunderstood. Mayhap, as the years glide by, the messenger will come with altered speech and altered form to these simple Malayalis; but who can tell how long it will be before this happens? and many of us would, I suspect, think with regret that a change should come at all. In the wake of Oneiswaran follows another hillman with bag in hand. This one sweeps up the gifts of rice and other provisions placed by the house people for the acceptance of Oneiswaran, and runs away to take more supplies from other doors. Before the sun rises, the peripatetic representative of the deity returns to his house with a bountiful, if somewhat mixed, supply of provisions, which will answer for a pretty good length of time. It is interesting to notice how sentiment and sense are cleverly blended in this pretty custom



of propitiating the Onam deity. The panan is the devil driver and sorcerer in the village, and his services are often requisitioned by the village folk, and here certainly is a pretty way of compensating him for his services to the village community.

Onam is truly one of the prettiest harvest festivals to be met with in any part of the world. A great wealth of religious and social detail has gathered round it, and its origin, though freely dealt with in many an ancient legend and folk song, is still the subject of divided opinions; but for all that it is by common consent a season when care and the serious burdens of life must be put away, when young and old should seek to live in an Arcadia, where distress and suffering are unknown. Unconsciously, the Malayali works himself up into this enviable state of mind as this great national festival of his approaches. And out in the rustic areas of the province, when the Chingom month draws nigh and the Onam butterfly (the large emperor blue) begins to flit about in the warm sunshine, the most casual observer notices a change in the Malayali. His step is more like his yard, cleaner, were that possible, his women wear a sweeter look, and their natural charm is infinitely increased.

In the spring, a livelier iris changes on the burnished dove,

In the spring a young man's fancy lightly turns to thoughts of love

Even so is it with the Malayali, and long may it remain thus in a region where the primitive simplicity of the old world is not yet dead; where, if one but steps aside from the busy town, he enters a pastoral region the simple annals of which would form fitting theme for the pen of some master like him who has enshrined in immortal verse the simple story of the ideal village of Auburn.

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# ART. III.—“THE WONDERFUL CENTURY.”

BY ALFRED RUSSEL WALLACE (London: Swan  
Sonnenschein & Co., 1898.)

THIS is a remarkable book, and no one can read it without interest and profit. It is proposed to note briefly each of the subjects treated by the author as helping to make the Century wonderful: I give the list of these subjects, and propose further on to notice each separately.

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|--|-----|--|
| I. Modes of Travelling                   | ... | { Railway.<br>Steamship.                                       |
| II. Labour-saving Machinery.             |     |  |
| III. The Conveyance of Thought           | ... | { Telegraph.<br>Telephone.                                     |
| IV. Fire and Light                       | ... | { Matches for ignition.<br>Gas.<br>Electricity.                |
| V. New application of Light              | ... | { Photography.<br>Röntgen Rays.                                |
| VI. Spectrum-Analysis.                   |     |  |
| VII. Theoretical discoveries in Physics  |     | { Conservation of<br>Energy.<br>Molecular Theory of<br>Gases.  |
| VIII. Application of Physical Principles |     | { Velocity of Light.<br>Phonographs.<br>Röntgen Rays.          |
| IX. Importance of Dust.                  |     |  |
| X. Great Problems of Chemistry.          |     |  |
| XI. Astronomy and Cosmic Theories        |     | { New Planets.<br>Meteors.                                     |
| XII. Geology                             | ... | { Glacial Epoch.<br>Antiquity of the<br>Genus <i>Homo</i> .    |
| XIII. Evolution and Natural Selection.   |     |  |
| XIV. Discoveries in Physiology           | ... | { Cell-Theory.<br>Germ-Theory.<br>Anæsthetics.<br>Antiseptics. |

Some of the subjects are highly scientific, such as the progress of our knowledge in Astronomy, Geology, and Physics. As these are outside my sphere of study, I can only notice them briefly: in the volume under review they are fully described. Occasionally, on certain subjects, the author allows himself to indulge in deep censure of those who differ from



him. I cannot follow him there. I may have my own private views ; but the object of this paper is to state facts, advance knowledge, and approach the Truth. A quarter of a century hence the strictures which the author has printed, will either be accepted, or laughed out of court, by the next generation : it is well not to be too confident on any subject, but to reflect on the foolish condemnation by ancient men of past generations of what is now received as absolute truth, such as the revolution of the Globe, and the like.

I. Modes of Travelling. I myself, with my surviving contemporaries, can recollect the way in which boys of my own age returned from their home to Eton College, or crossed the Straits of Dover to Calais. During the reign of Queen Victoria these astounding changes took place. In the light and serious literature of the reigns of the fourth George, and the fourth William, there is abundant evidence of the mode of travelling by horse, by chaise, by coach, by waggon, of that period. As a fact, the Queen, on her wedding-day, came through Eton College to Windsor in a chariot drawn by four horses, and stopped in front of the College to receive the homage of the school, of which I had the honour of being at that time the Captain. It must be noted that the railway, the steamship, and the bicycle, differ fundamentally from all modes of transit of past generations, and are not mere improvements of the same idea, or developments of an existing system.

II. Labour-saving Machinery. The efficiency of human labour has been multiplied by the adoption of mechanical contrivances for the purposes of agriculture, manufacture, sewing, and type-writing. The idea was, indeed, conceived at the latter end of the last century ; but it marks a distinctly new departure in human industry.

III. The Conveyance of Thought. This subject is not only entirely a new invention, but so astounding, as to appear incredible. The Telegraph and Telephone mark a new epoch in human life. In Europe they have superseded an organized system of transmission of letters from city to city ; but in British India they have done something more : the famous telegraphic message from Delhi to Lahor on May 10th, 1857, contributed to the safety of the Empire. No. 1864, during the time that I acted as Home Secretary of the Government of India, under the Viceroyalty of Sir John Lawrence, the telegraph was first declared open from Calcutta to London, and by order of the Viceroy I penned the first telegram of respectful homage from His Excellency to Her Majesty. We hardly realised then, that a message despatched from Calcutta at sunset would be received in London soon after noon of the same day, five or six hours before it was sent !

“Panting time toiled after it in vain.”

Still more astounding is the invention of the telephone. During the late illness of H. R. H. the Prince of Wales, it is officially reported, it was arranged that he could, in his own room in Marlborough House, hear Canon Fleming preaching in Chester Square. Music can, in the same manner, be communicated; yet both Telegraph and Telephone are still in their infancy, and the extension of their use is a problem of the future. It must be remembered that in the telephone the voice is not actually transmitted, as in a speaking-tube, but is accurately reproduced by means of two vibrating discs, the one set in motion by the speaker, while the electric current causes identical vibrations in the similar disc at the end of the line, and these vibrations reproduce the exact tones of the voice, so as to be perfectly intelligible. At Buda Pesth has been started a telephonic newspaper. At certain fixed hours definite classes of news are sent by an employé along the wires, which are laid to the houses and offices of subscribers, so that each person hears the particular news which he desires, without the delay of printing a newspaper.

IV. Fire and Light. I can recollect London deriving its light from the oil-lamp, and the torch was not entirely disused. I recollect the difficulty which the housemaid experienced in striking sparks of light with the steel and flint into the tinder-box, and the surprise and wonder with which bottles from Paris, from which light could be extracted, were welcomed by children in the reign of George IV. Then came phosphorus, 1827-1834, about the time that I went to Eton, and what fun it was to play with matches! Gas was introduced into London as early as 1813, and gradually spread everywhere, indoors and outdoors, and was deemed to be invincible, until a mightier power was developed, in Electricity, which must carry all before it. Fire was, indeed, taken into the service of the ‘genus *Homo*’ at a very early stage of barbarism, and its use has advanced with the progress of civilisation; but in a few years of this Century a greater advance has been made than in all the Centuries preceding the Nineteenth.

V. New application of Light. Everything sinks into insignificance when compared with the discoveries made as to the nature of Light itself, and its effect upon various kinds of matter, leading to the discovery of the art of Photography. In 1839 Daguerre perfected the beautiful process of portrait-taking called the daguerrotype. I well recollect the head master of Eton, Dr. Hawtrey, returning from Paris in 1840 with a machine by which he took, on steel-plates, pictures of the College buildings, and I have by me photographs of the same nature of a slightly later date. At the time of the great



Exhibition of 1851 a further advance had been made, and the modern photograph came into existence, and we do not yet know the extent to which this newly discovered power can be applied : a photographic survey of the heavens on one uniform system is in progress, and the power of producing coloured photographs has, in 1891, been arrived at. The most recent of discoveries in connection with light is that peculiar form of radiation termed the X, or Röntgen, rays. They are produced by a special form of electrical current sent through a vacuum-tube, in and around which is some fluorescent substance, which, under the action of the current, becomes intensely luminous ; but the substances which are opaque or transparent to it, are not the same as those to which we usually apply the terms, but often the very contrary. A book of paper of a thousand pages, and a pack of cards, wood, carbon, leather, flesh, and skin, in moderate thicknesses, are transparent to the X rays, and the exact position of bullets embodied in the flesh or bone can be detected. Many further possibilities are opened out to this new form of radiant energy, which time alone will disclose.

VI. Spectrum-Analysis. This discovery has supplied a new engine of research, by which we are enabled to penetrate into the remotest depths of space, and learn something of the constitution and the motions of the constituent bodies of the Stellar Universe. It gives us a power and a knowledge which seemed absolutely and for ever unattainable by man. The subject is too deeply scientific to allude to further here, but on every ground the discovery and applications of spectrum-analysis deserve the highest place among the numerous great scientific achievements of the Nineteenth Century.

VII. Theoretical discoveries in Physics. Our author gives two instances : (1) the Law of Conservation of Energy, (2) the Molecular Theory of Gases. The subject is too scientific to be further discussed in a popular article such as the present. Our author writes that the great principle, evolved from discovered facts, teaches us that there is no origination of force on the Earth, but that all energy either now comes to us from the Sun, or was originated in the Sun before the Earth separated from it.

VIII. Application of Physical Principles. Two subjects are treated of by our author under this head.

(1) The Velocity of Light. This was first determined by irregularities in the time of the eclipses of Jupiter's Satellites, which were found to occur earlier or later than the calculated times according as we were near to, or far from, the planet. It was then found that it required eight minutes for light to travel from the Sun to the Earth, a distance of a little more

than ninety millions of miles, so that light travels about 196,000 miles in a second of time.

(2) The Phonograph. This is the invention of Edison, a citizen of the United States. The words of a speaker are heard quite intelligibly, with all their tones and modulations, at any distant time or place. I myself saw the late Shah of Persia, during his last visit to England, speaking in the Persian language in a certain position as regards a phonographic machine: when he had done speaking, and few who were present could understand what he had said, except myself and the late Sir Henry Rawlinson, something was done by the American proprietor of the machine, and, to the Shah's astonishment, His Majesty's very words came back to him out of the machine. The whole operation is mechanical. A diaphragm is set vibrating by the voice, and registers itself permanently on a cylinder of very hard wax, on an indented spiral line. This is effected by means of a fine steel-point, connected by a delicate lever with the centre of the diaphragm. When the diaphragm is set vibrating by the voice of the speaker, the steel-point moves rapidly up and down, and the resulting groove continually varies in depth, forming a complex series of undulations. If the cylinder be shifted back, so that the steel-point is exactly where it was at starting, and the cylinder is made to revolve and move onward at exactly the same rate as before, the up-and-down motions of the style, due to the irregular depth of the groove, set up the very same series of vibrations in the diaphragm as those which cut the groove; and these vibrations reproduce the voice with remarkable fidelity, so that the most complex and rapid voice can be heard quite intelligibly, though not exactly in the same tone of voice. These cylinders can be preserved for years. It must be admitted that the phonograph is one of the most marvellous inventions of man.

IX. Importance of Dust. "A source of beauty and essential to life." This seems a hard saying, and a strange way of talking about a positive nuisance; but it is none the less true. Our author sums up the amount of our debt to the universality of dust. It gives us the pure blue sky; it gives us the glories of the sunrise and sunset, and all the brilliant hues of high mountain regions. Half the beauty of the world would vanish with the absence of dust: dust also gives us diffused daylight: without dust the sky would appear absolutely black: we should have bright glaring sunlight, or intensely dark shadows, without any half tones. A late writer on the subject of Central Asia, C. Ujfalvy, points out the beneficial effect caused by dust, as the detritus of rock born by wind and storm has performed the silent yet beneficial work of



preparing large areas of culturable soil. The overwhelming importance of the small things of this world, even the despised things, has never been so strikingly illustrated as in these recent investigations into the widespread effects of atmospheric dust.

X. The great Problems of Chemistry. We can pass these over in silence, as they speak for themselves, and are too highly scientific for discussion by others than the expert. Among the latest news is that an American chemist of high repute has solved the problem of producing gold out of silver: this might have been scouted as a dream in past generations.

XI. Astronomy and Cosmic Theories. It is impossible to do justice to this great subject. The discovery of an additional planet, Neptune, in 1843, besides several asteroids, satellites, or minor planets, was an event which could have been expected, and further additions may be anticipated. The nature of the ring round the planet Saturn has been more accurately determined; but a still greater advance in knowledge is represented by the Meteoric Theory of the Universe, and the various phenomena presented by aerolites, fireballs, shooting or falling stars, now classed as meteors and meteorites. A new conception has been formed of the possible origin of the Universe, differing from that entertained last Century: this is one of the grandest achievements of the Nineteenth Century; yet our author remarks that they bring us no nearer to the First Cause of the vast Kosmos in which we live; but we know not what future centuries have in store for us.

XII. Geology. (1) The Glacial Epoch; (2) Antiquity of the 'Genus *Homo*.' The details and principles of this great science have been wholly worked out in the present Century. Sir Charles Lyell's epoch-making book, "The Principles of Geology," 1830, gave a new start to all future investigations, and Cuvier's Essay on the Theory of the Earth was, with profound respect, placed aside. It must be a sad suggestion to all writers in this critical, and ever advancing, age, that their fate may be as has been that of many an illustrious predecessor whose view was limited, and whose facts were insufficient. Lyell's method was that of constant appeal to the processes of Nature, and for a period of forty years he continued to extend his knowledge. His followers have been termed 'Uniformitarians,' on account of their belief that the causes which produced the phenomena manifested to us in *the crust of the earth are essentially of the same nature as those acting now*. The story of the Glacial Epoch, and the antiquity of the Genus *Homo*, is too long to be dwelt upon further here. They offend against pre-

judices worthy of the greatest respect ; but facts are facts, and cannot be set aside by fond legends and airy theories. The last word has not yet been spoken ; at any rate, there has been an immense advance in knowledge.

XIII. Evolution and Natural Selection. The author of this work, Alfred Russel Wallace, shares with the great Charles Darwin the honour of being the apostle of this revolutionary dogma. Robert Chambers, in 1844, in his anonymous volume, the "Vestiges of the Natural History of Creation," had started the idea. I remember reading this book in India fifty years ago with interest and wonder, and a very wicked book it was then considered ; and, although mild and even religious in tone, it was met with a storm of indignant and senseless abuse, and even great men, like Sir John Herschel, spoke against it for its advocacy of "so great a scientific heresy as the 'Theory of Development.'" Fifteen years later Charles Darwin published his book on the "Origin of Species." A great change of public opinion has followed, but perhaps the end is not yet. On all subjects, especially on such as this, there should be an absence of all bitterness, all abuse, and a calm weighing of facts adduced, and arguments based upon them. This equanimity and nobility of mind have been found sadly wanting up to this very year.

XIV. Discoveries in Physiology. This Science, which investigates the complex phenomena of the motions, sensations, growth, and development, of organisms, is almost wholly the product of the present Century. The first great fundamental conception is the 'Cell-Theory,' definitely established for plants in 1838, and soon afterwards for animal structures. All organisms originate in simple 'cells,' which are almost identical in form and structure, and which thus constitute the fundamental units of all living things. Another discovery is that of the 'Germ-Theory.' It has been proved that the white corpuscles of the blood, whose functions were previously unknown, are really independent living organisms. They inhabit our blood-vessels and all the tissues of the body, and have important functions to perform, on which our very lives depend. Their full importance can be realized only in their relation to zymotic diseases, and have an important bearing on sanitation.

Two more discoveries have been made, which have done more to alleviate the sufferings of mankind than many mechanical inventions and philosophical theories which receive a more general admiration. I allude to the use of 'anæsthetics' in surgical operations, and the 'antiseptic' treatment of wounds. Ether and chloroform were first adopted in 1848. I was present in the great battles of Sir Hugh Gough in the Panjab in 1845-46, and have witnessed the harrowing sight of the amputation of limbs of poor wounded soldiers, causing agony to the



poor sufferers most of which is obviated now. The use of antiseptics saves many a life in the Hospital from the suppuration of wounds which was produced by the rapid multiplication of minute organisms called bacteria.

Our author closes the First Part of his volume by a chapter summing up the achievements of the Nineteenth Century, and comparing it with the outcome of the long roll of preceding centuries. It would require a considerable time, and a lengthy consideration, to arrive at a safe conclusion. He expands the fourteen sections which we have reviewed, by bringing the subsections into line with the sections, and records twenty-four as the great discoveries of the Nineteenth Century, which he contrasts with the fifteen of all preceding ages; but we miss from the last list the rotatory motion of the Globe, the recognition of the Planetary System, the Law of Eclipses, Cartography, Architecture, Sculpture, Tablets of Written Inscriptions in Cuneiform, and Ideographic, as well as Alphabetic, Written Characters, the Preservation of the Dead, the use of Metals, the use of Clay, a certain knowledge of the property of Herbs, and all that distinguishes the Savage from the man in a higher stage, the Barbarian, and the Barbarian from the Civilized Man.

We could have wished that our Author had closed his interesting volume here, at the 158th page. The higher critics assert their capacity to detect a second hand in what has been handed down from former ages as the work of one author. In Part II of this volume we seem to come into contact with a writer with another style, without judicial calmness, in fact a partisan. He entitles Part II "Failures." They would more properly have been treated in a separate volume, as Failures are hardly a suitable subdivision of a volume entitled "The Wonderful Century." It seems to me more convenient to add the names of these so-called failures to the list of subjects, as follows:

XV. Phrenology.

XVI. Hypnotism.....

{ Thought-Reading.  
Clairvoyance.  
Mesmerism.

XVII. Vaccination.

XVIII. The evils attendant on  
Civilization

{ Criminals in Prison.  
Lunatics in Asylums.  
Armies and Navies.  
Rule of Subject Kingdoms.

XIX. Demon of Greed and  
Plunder of the  
Earth

{ For Gold.  
For Dominion.  
For Commerce.  
Suffering of Lower Classes.

XV. Phrenology. The Author has himself no doubt of the

substantial truth and vast importance of this discovery. He complains that it has been neglected. He gives the history of the discovery that there was a real connection between the mental faculties and the form and size of the various parts of the brain : this was in the early years of the present Century. About the year 1836-37, I remember phrenologists coming to Eton to feel the bumps of the boys' heads, as it was called, and to record opinions as to the hidden springs of character, for the gratification of fond parents. I remember reading one description of the noble qualities of a boy whom I knew very well, and whose life has not realised the beautiful character predicted for him. The author complains that people of mature years are unaware that the phrenology of their youth has been wholly rejected by the scientific world of to-day, and he is sanguine that in the coming Century it will attain general acceptance, proving itself to be the true science of the mind and of practical use in education, self-discipline, the reformatory treatment of criminals, and the remedial treatment of lunatics ; and the persistent neglect during the last sixty years will be referred to as an example of the narrowness and prejudice of men of science. This is the opinion of one man, "*Wallace contra mundum* : " at any rate there will be fair play ; no favour, and no intolerance : if in 1836 the orthodox clergy deemed the science to be contrary to Scripture, they will hardly be bold enough to do so in the Twentieth Century.

XVI. Hypnotism, in its three subdivisions of thought-reading, clairvoyance, and mesmerism. The author deplores the opposition to this branch of knowledge, which has been in evidence since the beginning of this Century : he appears to lose all judicial equilibrium. I quote his final remarks in defence of his unsuccessful protégé : he forgets that all advocates of an unsuccessful cause use very much the same arguments : "The great lesson to be learnt is to distrust all *à priori* judgment as to facts: the history of the progress of "Human Knowledge, especially of Physical Research, renders "it certain that, whenever the scientific men or popular "teachers of any age have denied, on *à priori* grounds of impossibility, or opposition to the laws of Nature, the facts observed "and recorded by numerous investigators of average honesty "and intelligence, *these deniers have always been wrong*" (p.211). No confident 'my doxy' theologians in the pulpit could sound the dogmatic trumpet clearer and louder.

XVII. Vaccination a Delusion. In a Chapter of 120 pages, a good-sized polemical pamphlet, the above thesis is discussed with a degree of bitterness and virulence which belong more to the faddist than the scientist. No doubt vaccination was the invention of the Nineteenth Century. I decline to discuss



it further : Time will show whether the practice should be maintained or abandoned.

XVIII. The evils attendant on civilization, as evidenced by the treatment of criminals in prison, of lunatics in asylums, by the existence of armies and navies, and by the system of rule of subject-Kingdoms. This chapter really is a strange divergence from the subject-matter of the Book, "The Wonderful Century," and with all due respect to the author, he wanders into subjects of which he can comparatively have slight practical knowledge. On the two first subjects I have been occupied for the last twenty years, as a member of a visiting Committee of Metropolitan Asylums and Prisons ; and though there is ample room for improvement, there is in their management nothing to be ashamed of. As regards the fourth subject, the Ruling of subject Nations, I have had long experience in British India, and the writer clearly has no personal knowledge. As regards the third subject, Armies and Navies, it is too large a one to be profitably dealt with except by military and naval experts.

XIX. The chapters on the Demons of Greed and Plunder of the Earth are a mere tirade against some of the lamentable features of the epoch : with very much that the author says I heartily agree ; but the subject is one for a separate treatise, and has no relation to the subject of this Essay, "The Wonderful Century."

As my object is to call attention to the great advance of knowledge, and wisdom which characterises the last three generations of the human race in civilized countries, I have ventured to subjoin certain additional subjects not alluded to by the Author :

- I. Widening of the thought of the Human Race.
- II. Geographical Discoveries.
- III. Religion in its widest sense.
- IV. Respect for rights of others : Universal Tolerance : Altruism, as opposed to Egoism.
- V. Absolute liberty to propagate Religious Doctrines not contrary to Morality.
- VI. Education of the Lower Classes : Power of the Press.
- VII. Public Hospitals ; Medical Knowledge.
- VIII. Linguistic Knowledge.
- IX. Anthropological Knowledge.
- X. History and Archæology.
- XI. Criticism, Higher and Lower, of the Records of Past ages.
- XII. Sanitation.
- XIII. Machinery of all kinds, and the work of the Engineer.
- XIV. Zoology, Botany, and Mineralogy.

I. Widening of the thought of the Human Race. The literature of the day, the lectures in Universities and Learned Societies, the speeches on platforms, must convince us that there is a wonderful advance in all classes along the whole line of human thought.

II. Geographical Discoveries. No word need be said to illustrate this fact : the veriest schoolboy of Macaulay, or the child in the Board School, bears witness to this.

III. Religion in its widest sense. Let anyone consider what was known of the religious conceptions, ancient or modern, of the non-Christian World at the commencement of the present Century. The Missionary classed them all as the kingdom of Satan. Garbled and imperfect accounts were given in cyclopædias, or books of reference. As to the Sacred Books of each Religion, nothing was known. This is not the case now. Egypt and Assyria have given up their venerable records. The great book-religions of Asia are at least understood. The animistic religions which preceded them, or which are found at this day, are faithfully and impartially described ; and the whole story of the struggle of Man to find out God in all the ages, in all climes, and by all races, is revealed to our astonished minds.

IV. Respect for the rights of others, under the name of universal tolerance, has succeeded to the cruel and intolerant policy of Christian and Mahometan nations. The gentle precept which Asoka, King of North India (200 B.C.), published on his Tablets all over India, that each man should serve his Creator in the way in which he thought fit, is now the common law of civilized nations. It really represents Altruism as opposed to Egoism.

V. Absolute liberty to propagate religious doctrines is the natural corollary of the preceding principle, so long as the methods are peaceful, and not contrary to morality and the laws of the particular country.

VI. Education of the lower classes at the expense of the State, or Municipality, by means of schools, and the teaching of a free and intelligent Public Press.

VII. Public Hospitals for the poor without charge : the maintenance of medical skill in the highest efficiency.

VIII. Linguistic Knowledge. Little was known at the commencement of this Century. I bought a linguistic book at Edinburgh, published in this Century by a man of repute in his time : he stated that there were about sixty-two forms of speech in the wide world, and that all came from Hebrew. This was the old Tower of Babel story. We know something very different now : that the number of mutually unintelligible forms of speech at this day in the world exceeds two thousand, and



that they belong to families with no possible connection with each other, as they are distinct and totally different outcomes of the brains of mankind. Some have died centuries ago, leaving a vast literature. Some are dying, being trodden down by the great vernaculars of the time, such as English ; new languages are forming from the combination of different Languages which have come into contact. Each traveller brings home vocabularies of previously unknown forms of speech. In no branch of knowledge have wider additions been made than in linguistic science during the Nineteenth Century.

IX. Anthropological Knowledge. "The proper study of mankind is man." We have it on record beyond doubt, that the human race not only existed at a far earlier period than that which was previously received, but sprang from distinct seed-plots, differing materially in structure of body, colour, hair, yet still of the same "*Genus Homo*," and all with the two congenital gifts, (1) a Religious Instinct, or knowledge of a power greater than itself, and a desire to conciliate that power ; (2) power of communicating with each other by articulate sounds ; this indicates the dividing-line betwixt the "*Genus Homo*," and the rest of the animal reation.

X. History and Archæology. In these subjects the Nineteenth Century has made gigantic strides. A line has been drawn betwixt serious history and fanciful legend which passed as history. Excavations have revealed buried cities and tombs which had been entirely forgotten.

XI. The Divining Rods of the Lower and Higher Criticism. This is a new science, the creation of this Century. The Lower Critic examines the texts of ancient records of past ages, and under certain rules, based on experience, works out a text as pure as can be made by collation of scores of texts collected from totally different quarters. The Higher Criticism looks under the text, and weighs the possibility of inaccuracies of the copyist, introduction of new matter into an old record at a subsequent date, corrections made by later hands, errors of interpretation, and all the manifold causes of error to which manuscripts were liable before the introduction of printing.

XII. Sanitation. The very idea seems never to have suggested itself to our ancestors. A good fire, such as that of London, or a siege by a hostile force, did what was periodically required. It is different now : a great deal more in our great cities has to be done, but a great deal has been done. The Plague in Bombay and other parts of India brings the subject home to Indian administrators.

XIII. Machinery of all kinds for all purposes, and the work of the Engineer.

XIV. Zoology, Botany, Mineralogy. No words are required to illustrate the enormous advance of knowledge in these last subjects.

It must appear to any careful inquirer that no previous Century or cluster of Centuries can be compared as regards universal progress with the Nineteenth; but it may have a superior rival in the Twentieth, on the confines of which we stand.

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#### ART. IV.—THE ANTIQUITIES OF THE KURNOOL DISTRICT.

**T**HE objects of antiquarian interest in the Kurnool District may be classed as follows :—

1. Ancient Temples.
2. Ruins of Ancient Towns or Villages, Forts and Walls.
3. Large Irrigation Works, including Ruined Tanks.
4. Mosques and Tombs.
5. Ancient Stone Implements, Dolmens, Tumuli with or without Circle. Stone Circles
6. Inscriptions on Stone or Copper, Gudikat, or old Manuscripts.

The Temples may be grouped under three heads :—

1. Temples with elaborate carvings.
2. Temples, ordinary, consisting only of the usual three apartments, *viz.* ; (1) Where the idol is kept—(2) ; Where people stand to worship ; (3) The open hall forming the front part of the building. In some temples separate rooms are added for the female deities.
3. Small village temples, more or less primitive in style.

The most ancient Temple is that at Srisailam, which is situated on an inaccessible mountain plateau, overlooking the Kistna river. The ruined wells and tanks in the neighbourhood testify to the country around having once been in a prosperous condition. Srisailam was the residence of a Chief in the fifteenth century, and is said to have been deserted after the conquest of the country by the Mahomedans. The last remnant of the population, it is said, left it in the eighteenth century, when a band of robbers looted it.

In 1794 the Temple was visited by Colonel Colin Mackenzie, who has left a description of it in the " Asiatic Researches of Bengal for 1798." It is 660 feet long by 510 feet broad. The enclosure is of an oblong form, and is surrounded by thick walls, varying from 20 to 26 feet in height, built of hewn blocks of greyish stone, from 6 to 7 feet long by 3 feet high, exactly squared and laid together. The walls are elaborately sculptured. The first or lowest row of these stones is covered with figures of elephants harnessed in different ways, as if led in procession, many of them twisting up trees with their trunks. The second row represents horses and hunting scenes. Some horses are led ready saddled, which their manes ornamented ; others are tied up to pillars. While many others are ridden by horsemen, engaged in fight at full gallop, armed with

pikes, swords and shields ; others are seen hunting tigers and running them through with long spears. " All these figures," says Colonel Mackenzie, " are accurately designed. It is remarkable that several figures are represented galloping off, as in fight, and at the same time drawing the bow at full stretch ; these Parthian figures seem to have entirely dropped the bridle, both hands being occupied by the bow. Some of them are seen advancing at full speed and drawing the bow at the same time."

In the third row a variety of figures are represented. Many of them are shown as hunting tigers, and in one place figures a lion attacked by several persons. Crowds of people appear on foot, some armed with bows and arrows like the Chenchus. Figures of Bairágis, or Jogis, are also seen, distinguished by large turbans, some carrying their sticks, pots and bundles, as if returning from a journey ; some leaning on their sticks, as if tired or decrepit from age ; others approaching with a mien of respect and adoration. The remaining rows are also filled with numerous carvings representing various scenes from religious books of the Hindus, the topmost row being cut into battlements. Among the figures may be noticed Brahma balancing Vishnu and Siva, and a figure of a naked female approaching the Lingam with a string of beads in her right hand, and a hand issuing forth from the Lingam.

In the centre of this enclosure is the Temple of Mallikarjuna, the chief deity worshipped here. It is square in form, with the usual Gópuram, or pyramid of steps, about thirty feet high. The walls and roof are covered over with brass plates gilded ; but the gilding, when I visited the place, was worn away. The plates are joined by smaller bars and lockets, so that they may all be taken off without damage. There are a few embossed figures of women and some small ornaments on the friezes of the doors, the panels of which are also plated. From an inscription it would appear that these gilded plates were presented in Sáliváhana Sakha, 1435 (A.D. 1513), by Krishna Déva Raya of Vijayanagar, on his return from his northern conquests. Opposite the Temple is a large Bull, a monolith, which, according to the popular belief, once ate Bengal gram.

The Temple is reached by three different routes : (1) from Atmakúr in the Nandikóthur Taluq, the residence of the Pujàris ; (2) from Bommalapuram in the Márkápur Taluq ; and (3) from the Hyderabad territory. The Atmakúr road lies over a flat country as far as Nágalutí ; a distance of ten miles, and is by far the fittest for wheeled traffic. From Nágaluti the ascent commences by a stately flight of steps formed of rough stones, which leads to the top of a plateau,



where a small cluster of huts is occupied by Boyas and Chenchus, who cultivate some land under a tank. A short distance from here, the ground slopes down to a valley called Kollam, about 1,000 feet below the plateau. At the bottom of the valley is a shallow stream, which is easily crossed ; thence a flight of steps, with stones properly laid together, leads up to the top of the Srísailam plateau, where there was formerly a large archway called Kaílásadwáram (literally gate leading to Kailasa, or the heavens). From this to the Srísailam Temple we have a broad plain easy to travel. The other two roads are said to be difficult to travel.

The dates at which some of the buildings connected with the Temple were constructed, as ascertained from the inscriptions kept by the Jangam High Priest of Srísailam, are given below :—

- (1). The Mantapam in front of the Temple was built in 1293 (A.D. 1371) by Anavema Reddi.
- (2). The same Reddi built a large Mantapam in A. D. 1377.
- (3). Steps from Srísailam to Pátálaganga or the bed of the Kistna river were built, in 1315 (A.D. 1393), by Haripara Déva Maharaj, or his wife.
- (4). The South Mantapam was built and dedicated in 1326 (A.D. 1404) by Haripara Deva Maharajah.
- (5). The steps from the south gate of Sri Mallikarjuna's Temple were built in the year 1327 (A.D. 1405).
- (6). The flight of steps from the South Temple down to Durgá Déva was built in 1344 (A.D. 1422).

The Srísailam Temple is the most ancient and sacred in Southern India. It is situated on the high banks of the Kistna river in the midst of malarious jungles and rugged hills. Notwithstanding its inaccessibility, the pilgrims to Srísailam are numerous, and some of them come from Central Hindoostan.

The earliest record we have of this Temple relates to a visit by the Chalukya Prince, Trailokya, in A.D. 1058. It was richly endowed by Hindu princes and nobles, and was in a prosperous condition till the arrival, in the seventeenth century, of the Mohamedans who resumed Inams and levied a tax on pilgrims.

In the first year of the British Administration this tax amounted to Rs. 5,000 and odd. In 1840, when the Government ceased their connection with the temples, the pagoda was handed over to Sri Sankarácharya as its Warder.

#### AHOBILAM.

The original temple is a small pagoda not unlike the ordinary shrines.

In the fourteenth century, a fine Kalyána Mantapam—wedding hall—was built by the Reddies of Kondavidu. It is supported by sixty-four pillars, each of which is beautifully carved into several miniature pillars. In front of the temple is a fine unfinished Mantapam, with its large pillars made of white sandstone (said to have been brought from the Cuddapah district), about three feet in diameter and elaborately sculptured. Of this Mr. Ferguson, in his *Indu-European Architecture*, says:—

“It is a large unfinished Mantapum, in plan and design very like that of the temple of Vitoba, at Vijayanagar, but its style and details are so much more like those of the Náyaks that it must be at least a century more modern and could not therefore have been erected before the destruction of that Capital in A.D. 1565. The dynasty, however, continued to exist for one or two centuries after that time till the country was conquered by Tippu Sultan. It must have been by one of the expatriated Rajas that the Temple was erected, by whom even tradition is silent. Whoever might have built it, it is a fine, bold specimen of architecture, and if the history of the art in the south of India is ever seriously taken up, it will worthily take a place in the series as one of the best specimens of its age, wanting the delicacy and elegance of the earlier examples, but full of character and merit.”

Ahobilam is in the Sirvel Taluq and is the most sacred Vishnu Temple in the Kurnool district. It is thirty-five yards square, and the walls are fifteen feet high. It is dedicated to Narasinha, the man-lion avatar of Vishnu, which he assumed to destroy the tyrannical demon Hiranya Kasyapá.

The shrine consists of (1) the Diguva Ahobilam temple at the foot of the hills; (2) the Yegnon Ahóbilam temple, about four miles higher up on the Bhavanásí; and (3) a small pagoda at the top of the hills. These, with six other pagodas situated about the hill, form a group as Nava nine) Narasinha, representing nine different forms in which Vishnu exhibited himself.

#### DIGNOA AHOBILAM

is a small ordinary shrine; at Peddu Ahóbilam the idol is kept in a rock-cut cave, or rather a hollow caused by the denudation of a subjacent rock. Near it, in a verandah, is the Chenchu bride of the Swami, on whose account the Chenchus became the votaries of Vishnu and enjoy certain fees at the festival. Near to this is a deserted room of Vishnu's lawful wife, Lakshmi, who, being offended at her husband's faithlessness, went up to the hills and took up her abode on the top of the Momukonda peak. Here, upon one of the precipitous sides of a deep and dangerous ravine, is an iron pillar which barren women solicitous for children move round and adore.



The Vijayanagar Princes endowed the Temple with Inam villages and lands. Only some of these are now continued. The Government make an allowance of Rs. 350 in lieu of resumed lands and fees.

The Temple was plundered, and its valuable jewels were taken away by the Mahomedans of Golkonda in the seventeenth century and by Nawab Munauwar Khan in the latter part of the last century.

#### NAMMAL VARIKUNTA

a large tank with stone revetment, about 156 by 138 feet, is another monument of piety. It was apparently intended for the floating festival.

#### RAMATIRTHAM

is a few miles from Ahóbilam and is noted for a small pagoda called Puttalamma, or large anthill, which people worship with great reverence.

#### CHENNAKE SAVASWAMI

is held very sacred and has acquired local celebrity. The idol is said to have restored to life certain shepherds who had been beheaded, and made the heads talk. The first temple is said to have been established by a milk-maid, and the building erected during the reign of the Gajapatis in the fifteenth century. Its chunchus, or projecting ledges, are admired by natives as one of the seven curiosities in the Kurnool district. The other six curiosities are—

- (1). The Gópurum or tower of Venkatadripalem Temple.
- (2). Gaddé, or the altar of Tripuruntakam Temple.
- (3). The carvings in Millampalli Temple.
- (4). The waters of the Arvitamma Well.
- (5). The women of Bommalapuram, as being once beautiful.
- (6). The Durbar seat in Errakondapálem.

#### THE MUKHA-MANTAPAM,

supported by forty stone pillars, is carved with the figures of Krishna, Anjanéyá, Garudá, Lakshmi, Vináyaká, with their Váhanás, or vehicles, such as elephant, lion, sarabha, sárdulâ (tiger), chariots and drivers. One of the figures represented is that of a Mayámrigam, the upper half of which is in the form of a woman and the lower half in that of a beast. On two of the pillars opposite the idol are carved two beautiful gópurums which are much admired by natives, and to which they have given the epithet of "brothers" because of their striking resemblance to each other. In the four corners, as well as in the centre of the Mantapam several figures are depicted. On both sides of the doorway are several indecent figures; at the top are representations of Ráma cutting seven palm trees

with a single arrow, of the fight between Váli and Sugrivá, and of Ráma striking down Váli with five arrows.

#### THE SANGAMESVARAM TEMPLE

Is at the junction of the Kistna and the Bhavanasi rivers. There is a small group of temples here, one of which has its Gópurum built in the form of a car. The idol is fabled to have been established by Bhima, one of the five Pandús. Once in twelve years the water of the two rivers is supposed to rise by the influence of Jupiter's entering the constellation Virgo, and a large number of pilgrims resort to the place on that occasion to wash away their sins by bathing in the sacred water. An annual festival is performed there on the day of Sivarátri.

#### MILLAMPALLI VENUGOPALASWAMI'S TEMPLE.

This temple was built in A. D. 1718 by a Prince of the Vijayanagar family, the idol being of still greater antiquity. In 1614 walls, porches and a gateway were built by a sister of the local Zemindar. In 1712 it was placed in charge of the Nabob of Arcot. There are several scenes represented in the temple.

#### TRIPURANTAKUM.

This is sacred to Sivá. It is a very ancient temple, and is locally known as the eastern gate of Srisailam.

There are several smaller temples in the Cumbum, Koilkuntla, Pattikonda, Nandial, and Pattikonda taluqs.

#### GUNDALA TEMPLE.

This is sacred to Chennakesava. It is an ancient temple elaborately carved. Among the numerous figures are those of an elephant and a buffalo artfully carved with a single head common to both, so that, if you cover with your hand the body of the one, you see the other in its full size. The Gopurum is one hundred and twenty feet high from the ground below, with five storeys. The building is so constructed that, by shutting the doors of the temple and letting light through a hole in the door, made for the purpose, you see the Gopurum reflected on the floor of the temple within.

#### RUINED VILLAGES, FORTS, ETC.

The fact that the country, abounding with several hills and valleys, was ruled for a very long time by independent chiefs accounts for the construction of the many forts and strongholds scattered over it. Almost every town has a fine fort and every village its own keep.

In 1847 a Captain Harris was deputed by Government to report on the hill forts of the Nallamalais and the Erramalais. They were reported not to be in good condition, and the Government did not think it necessary to incur any expen-



diture with a view to destroying them, but ordered the district officers to see that they were not strengthened or repaired. These forts in the district are all now in ruins. A brief mention will be made of some of the most important.

#### ALUTLA

in the northern Nallamalais is a hill fort eighty yards square built of stones. It was visited in 1855, by Captain Nelson, of the Invalid Army, who published some account of it and the country around in the *Madras Journal of Science*. He thinks the fort was erected to defend the ford of the river near there, but the people say it was intended as a fold for the cattle of the Poligar. Close by it lie the ruins of Daddanala, once the principal town of Zemindar Sáyappa. It was destroyed by the Mahomadans from Hyderabad in the sixteenth century, through, it is said, the treachery of the Brahman minister. The Chief being then absent, the females of his family, who were of the Kammá caste, shut up the fort and burnt themselves in it. The residence of the Chief was then transferred to Erragondapalam, where the durbar seat, a large stone on a raised dais, used on public occasions, is still to be seen. The generality of the people will not even now sit on it; so great is their veneration for the memory of their former princes.

Near Peddacherava, sixteen miles from Atmakur, are to be seen ruined forts and tombs which are evident indications of the country having once been in a flourishing condition.

#### THE SIDDAPUR FORT

is a pretty large square fort in tolerable order, with a zig-zag gateway. It was deserted in the time of the father of the late Nabob, in the beginning of the present century. A fine mosque is still in existence, as also the remains of a temple of Janárdana.

#### VELGODU FORT

is all gone excepting the zig-zag gateway. It was built in the sixteenth century by a fugitive Zemindar from Golkonda, the ancestor of the present Raja of Vencatagiri. One of the bastions was known as that of the "seven sisters." The story goes that, in order to give permanence to the fort, seven daughters-in-law of the former sacrificed themselves with their children, one of them, who had no child of her own, carrying a pariah boy, Yachanna, whom she found in the street. In memory of this, the Zemindar's family is still known by the name of Yachanna, and respect is shown to the pariahs on the occasion of marriage in the Zemindar's family. The temple in the fort was pulled down and another

reconstructed. In the temple is kept a well polished stone, 6 feet by 3 feet by 3 feet. It is an inverted trough nicely fitted to a flat stone below, and when it had been filled with cold water the Zemindar used to lie upon it during the hot weather.

THE MUSALIMADUGU FORT,  
on the banks of the Kistna River, is in pretty good order.

#### MURAVAKONDA

had a fine fort at the ford of the Kistna. It was repaired and improved by the late Nabob, but was dismantled during the Mutiny by General Whitlock's movable column.

#### THE KRISHNAGIRI FORT

is noted for its large elephant gateway. Here are found ruins of what is said to have been an ancient Jain settlement.

#### THE KURNOOL FORT

has been dismantled, except the gateway, which has been allowed to stand as a memorial of native workmanship.

#### THE KOTTAKOTA FORT

was erected on a little rocky eminence about A. D. 1749. There are still to be seen the remains of the very good fort ditch, which has been cut with no little trouble and care in the solid rock on which the fort stands. At the top of the highest tower there was still, in 1886, one of the old guns in excellent preservation, measuring about 14 or 15 feet long.

#### THE UPPALAPAD FORT,

on the Erramala plateau, is in ruins. There is an old gun of native make on one of its batteries.

#### THE VILLAGE KEEPS

are generally single bastions. Some of these were repaired during the famine as a means of protection from robbers.

#### MOSQUES AND TOMBS.

The principal Mosques and Tombs in the Kurnool District are the following :—

*Abd-ul-wahab's* tomb, in Kurnool, on the banks of the Handri. It was built in A. D. 1618, and consists of two domes, the workmanship of which is much admired.

#### JAMMA MUSJID,

in the fort, was built on the foundations of a Hindu temple, destroyed for the purpose.

In Jólapur there are numerous graveyards of Mahidhs, a peculiar sect of Mohamedans. In the Cumbum Village there are several Mussulman tombs and musjids.



## DOLMENS, ETC.

In a letter to Government written in 1873 by a District Engineer, it was reported that, among other ancient remains, he had seen in the Kurnool District Tumuli, Dolmens, &c., with or without circle. Unfortunately he has not named the localities visited by him. Probably they are all to be found in the Cumbum division, where the Jains at one time flourished.

T. N. T.

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## ART. V.—AN INDIAN MISSIONARY.

JOHN DE BRITTO.

TOWARDS the end of the 17th Century, there ruled over the kingdom of Ramnad the illegitimate son of the last Sethupathi. He fought his way to the throne and kept it for a period of no less than six and thirty years. His name was Ragonatha, but by the soubriquet of "Kilavan" (Tamil for "old man") alone is he known in history. In the usual Oriental fashion as then prevailing, he conveniently disposed, by assassination, of the two principal men who had been instrumental in obtaining the throne for him. Fear lest the influence which had been so successfully exerted in his behalf might equally tell in favour of a rival, seems to have actuated him to cause the removal of neighbours possessed of such dangerous power; and the rival whom he most seriously dreaded was Jiriya Jevan, the rightful heir to the throne of Ramnad, set aside in favor of the Kilavan.

The kingdom of Ramnad, about the period we write of, was known as the Marava Country; and the year 1693 is notorious in connection with its history for the lamentable attack on Christianity which culminated in the martyrdom of the great Missionary John De Britto. Jiriya Jevan, the rightful heir to the throne, was then suffering from a serious malady, which De Britto succeeded in curing, and he was likewise successful in converting him to Christianity. Having been converted, Jiriya Jevan was called upon to practice monogamy, the rest of his wives being informed that all save one must thenceforth consider themselves his sisters. Naturally, the ladies of his harem looked upon such a resolution in the light of a deliberate insult, and strove to induce Jiriya Jevan to allow them at all events to live with him as his wives. But, finding their attempts futile, they resolved to revenge themselves on the author of their humiliation. In accordance with this determination, one of them, who was the niece of the Kilavan, took her way to the capital, and there prostrating herself at her uncle's feet, enquired whether she, a princess of a royal house, should be driven from her palace like a dog by a vile Porangi magician and impostor, and whether the ancient gods of her country were to be openly disgraced by a foreigner. Many tears and entreaties accompanied her words. The Sethupathi was moved to great anger, and wrote at once to Jiriya Jevan to arrest De Britto and destroy all his Churches. Dissatisfied with this concession, Kadalei the outraged niece of the Kilavan, enlisted in her



cause a certain Brahman named Pompavanam, notoriously hostile to De Britto. He, heading a deputation of Brahmans, represented that the progress of Christianity imperilled the kingdom, and that, though De Britto repeatedly and in set terms had been forbidden the kingdom, he yet taught and preached and converted. The argument of defiance to the Sethupathi's authority told most. It was an argument that could hardly fail to miss the mark, seeing that, if the Sethupathi did not interfere in time, the majority of the population would in a year or two become entirely Christian, and Jiriya Jevan, the Christian convert and rightful heir to the kingdom would then be in a position to remove the false Sethupathi from the throne which he had usurped.

Such was the irresistible force of the last argument that the Kilavan resolved upon instant action. His first thought was to make away with Jiriya Jevan. He accordingly sent for him and examined him regarding the allegations made against him. But here he was met with so bold a front that he was completely baffled. Not only did Jiriya Jevan unhesitatingly avow that he was a convert himself, but he further supplied the information that De Britto had long been preaching Christianity in the Maravar country and had made many converts, besides building four Churches. But Jiriya Jevan was too highly placed and the Kilavan's title too notoriously bad. Accordingly the Sethupathi resolve on wreaking on De Britto the vengeance he feared to inflict on his rival. The doomed man was seized at the village of Muni, chained, and, attached by long ropes to the saddle of a horse, ridden by a member of his escort, dragged rapidly along. Pitiably weak from ill-health as he was, De Britto's condition was such as to move a heart of stone ; but the hearts of his escort were of something harder, and every time he fell he was punished by an extra lash. On he stumbled ; but his weakness was fortified by the marks of touching sympathy shown by the Christians whom he met along the way. Having reached Hanumanthagudy, De Britto was taken to an open space where there was an enormous car to which he was tied, and then he was ordered to call upon the name of Siva. Refusing with a gesture of horror, he called upon the name of Jesus, when he was subjected to such tortures as his Master Himself had undergone. De Britto was now about to win and wear that crown of martyrdom which he had for years longed for.

On the 11th January he reached Ramnad and was cast into prison pending the arrival of the Sethupathi, who came to his capital shortly after to deal with his victim. Jiriya Jevan also was in Ramnad and exerted his influence to save his friend. For some time nothing was decided upon. Many considera-

tions swayed the mind of the Sethupathi. De Britto was commonly held to be a magician, and, though the Brahmans sought to get rid of him by magical incantations, yet he lived, so that a superstitious dread of offering deadly violence to his victim strongly operated on the Sethupathi's mind. Then, again, Jiriya Jevan's persistent efforts to save his friend were not to be lightly disregarded; while, finally, it was open to doubt whether the judicial murder of their chief guru would not excite unpleasant disturbances amongst the Christians who were so numerous in his dominions. So at last the Sethupathi meanly resolved to carry out his wishes through an agent on whom would devolve the odium and responsibility of the deed. Accordingly he issued a proclamation to the effect that De Britto was banished from his kingdom; and he forthwith sent him under escort to his brother, the Governor of Oriûr, a fortress on the northern frontier, situated on the river Pambar. But he forgot not to send with him a secret order directing the execution of the foreign priest.

De Britto arrived at Oriûr on the 31st January, and his martyr's soul rejoiced when he was informed that he was to be beheaded. The execution of his sentence was, however, delayed for three days. The Governor's chief wife, who was a Christian, interposed in his behalf; but, on the other hand, the Minister, who was a sworn enemy to Christianity, was as fervent in demanding the death of De Britto as his protectress was in demanding his release. The Governor, who appears to have been a weak man with no resolution, was at last prevailed upon by the Minister to order the sentence to be carried into effect. De Britto was accordingly taken and beheaded. His limbs were severed, and, with his head, hung up as a warning to the Christians. Indeed, such was the hatred of his enemies that his mutilated remains were denied burial and given to the birds of the air and the beasts of the field; and it was only after repeated endeavours that the members of his flock succeeded in evading the vigilance of the Maravar Guards and gathered together for burial his skull and a few of his bones. Thus perished this Indian Missionary, one of the greatest of a glorious band trained by the Church of Rome for the greater glory of God.

The murder of De Britto, instead of impeding the cause of Christianity as was expected, only helped to advance it. His heroic and steadfast example inspired converts with a desire to emulate his fidelity. And the report of miracles, real or supposed, performed through the medium of his blood shed on the sands of Oriûr, stirred up the lukewarm and caused those who wavered to adhere to the faith. Even those who were not Christian viewed with disapproval the needless cruelty with



which a guru had been treated and showed sympathy to some extent for his followers. Finally, both the Governor of Oriûr and his minister came to horrible and mysterious ends within a twelvemonth after the martyr; and their deaths were not unnaturally attributed to the anger of an offended deity.

The successor of this Governor was the eldest son of the Kilavan. He seems to have been of a liberal turn of mind, and encouraged pilgrimages to the martyr's shrine, allowing no toll to be levied; and even to the present day pilgrimages are made to De Britto's shrine on the anniversary of his martyrdom.

A few incidents of the career of this remarkable man may not be unacceptable to our readers. The 1st March 1647 saw the birth of Jean Hector De Britto at Lisbon. For distinguished services, his father, Don Salvador De Britto Pereyra, obtained, as a reward, the appointment of Governor of Rio Janeiro, which he had held for only two years when he died. His widow, Donna Beatrix Pereyra, now controlled the education of her children, and, being a woman of a high order of intellect and of a strong religious turn of mind, did so effectually. Into the youthful mind of the future martyr she inculcated such lessons as filled him with the noblest sentiments and protected him from the innumerable temptations that beset one of his noble birth in a court both gay and luxurious. Pedro IV had formed the resolution of training under his own eye a band of noble youths to become, in due course, ministers and counsellors of rare ability and strong attachment to the throne. Into this band of young nobles De Britto was admitted, and amongst them he at once attained distinction by reason of his simple high-toned manners, his lovable disposition, and the striking elevation of thought that he displayed. Jesuit Masters taught him, and he proved an apt pupil. Owing to the devotion he paid to the study of the lives of great Missionaries, and more particularly to that of Francis Xavier, he even thus early gained the soubriquet of the martyr. Later on, notwithstanding his mother's discouragement and the opposition of the Infanta and the Queen Regent, he withdrew himself from the society of his fellows to enter the house of noviciate on the 17th December, 1672. His idea of becoming a Jesuit, and, above all, a Missionary thus bore its first fruit. So full of ardour and devotion was he that he quickly earned for himself the character of being the most orderly, pious and charitable of that self-denying fraternity, while, by the enthusiastic prosecution of his studies he rapidly became an accomplished scholar. At length notwithstanding his mother's tears and the interference of the King, he sailed for India as a Missionary in 1673. Reaching Goa, he completed his theological studies and passed the *ad gradum* examination

In the following year he commenced his Missionary career, being attached to the Madrasa Mission. For many years he worked most industriously, and his efforts were crowned with such success that in 1683 he became Superior of the Mission. So peculiarly happy were the results of his administration that his zeal and ability attracted the attention of his superiors, who, in 1686, appointed him Procureur de la Mission. His new appointment compelled his retirement from India ; and when he returned to Europe, his sovereign, the highest dignitaries of the Church, the Universities and illustrious scholars vied with one another in according him the most flattering marks of esteem and consideration. But De Britto never lost sight of his intention to return to India to renew his Missionary efforts ; and all honours were respectfully but firmly declined. At last he was permitted to go back, and was offered the Archbishopric of Cranganore. Declaring that Missionary labor was that in which alone he could engage with delight and profit, he declined this offer ; and in 1691 he once again began his work as a Missionary this time in the Maravar country. Persecution was rife, and De Britto's sufferings from 1692 till his death were without intermission. Such was the life of this heroic preacher, fitly crowned by the martyrdom to which from his earliest youth he had aspired.

E. H. B.

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## ART. VI.—NORWEGIAN LITERATURE.

AT the present time there is, perhaps, no author on whose productions the attention of the world is more concentrated than on those of a Norwegian dramatist. An increased interest has arisen for the literature of the land that gave him birth, and this interest is enhanced by the fame of a national poet whose works are almost as widely known. We propose to trace briefly the origin and development of this new and vigorous literature.

In a remote island of the Atlantic Ocean some ancient chieftains of Norway sought a new home in the ninth century, when their uncontrolled freedom was encroached upon by Harold-the-Fairhaired, who united their mother-country under his sceptre. They founded a republic in Iceland, where literature was cultivated with success, and, in one of its branches, attained an excellence that in the North has not been surpassed. The Icelandic colonists were also intrepid sailors who, navigating the adjacent ocean, knitted intimate relations with Celtic countries and especially with Ireland, which was then the refuge of learning; and the literary culture of which according to late researches seems to have had no little influence in Iceland.\*

The fact that Icelandic chiefs were often priests forming a kind of theocracy, was favourable to letters and the development of the national tongue. While in most European countries at that time literature was limited to the universal language of Rome, if we except a few poems and ballads that were written in the untutored idioms of the young nations, histories were written in Norse that are masterpieces of style, and are still the models of great writers. For strength and sobriety of narrative, mastery and wealth of details, there are few modern histories that can compare with them.

Yet in Norway itself literature was comparatively neglected at this period. Even its national chronicles were written in Iceland, and the songs of Norwegian scalds were preserved by Icelandic scribes. The poetic art was cultivated with greater ardour, and attained a higher perfection in that island than in all the other countries peopled by Scandinavians. At the court of Norwegian kings, so long as his art flourished, there was always a scald, who was generally an Icelander, to sing the monarch's fame—his *drapa*—, to chant the exploits of his ancestors and of his family, and to enliven the

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\* Gudbr. Vigfusson : Sturlanga Saga.

banquet hall. The *drapa* was of great importance to history, as it described historical events, though, as might be expected, it was not very reliable. Saga-writers often had recourse to this class of composition, and quoted its verse. Love was seldom the principal theme of song. Lampoons were frequently composed; but shield songs were the most in fashion. It was the custom of princes to present a shield—in general elaborately carved and ornamented—to the scald on whom they conferred their favour, and the latter, in return, would compose a chant on the subject of the carvings. His poetic art was held in such high honour that the most famous kings of Norway, like St. Olaf and Harold-the-Hard, did not disdain to be enrolled in his fraternity.

The oldest collection of Norse poems that has been preserved is "The Older Edda," or Soemund's Edda, which is called after the Icelandic priest who collected them at the beginning of the 12th century. The exact date of their composition is uncertain; but it was evidently during a period when Iceland was still heathen—at intervals between the years 850 and 1050 A.D. The term *Edda*, which derives from *Odhr*, a poem, originally signified a treatise about the art of poetry, and does not rightly apply to the above. 'The Younger Edda' was written by Snorre Sturluson, the celebrated Saga-writer and chief who lived in Iceland in the same century, [and owes its name to the treatise it contains, and to the fact that it was written after Soemund's composition. Both Edda include the most valuable accounts of Norse mythology. In the 'older,' or 'Soemund's,' the poem 'Voeluspá' contains the Sibyll's prediction and a description of chaos before creation. It was composed in the short alliterative metre then in fashion. An accented word in each line of a couplet generally began with, or contained, the same letter, or one with a similar sound, while the employment of two words in the second line in accordance with this rule was optional. As an example we cite a part of the description of chaos :

"At dawn of days  
Then there was nought,  
Nor sand, nor sea,  
Nor billows cool.  
There was no earth,  
Nor heaven high ;  
—A gaping void.  
The grass grew not,  
E're sons of Bors\*  
Slung up the earth ;

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\* The god Odin and his brothers.



They Midgaard built,  
 The beautiful ;  
 The sun shone south  
 O'er stony ground,  
 There grew on earth  
 Green plants and shrubs."

The Sibyll predicts Raqnarok,—the last dreadful battle between the gods and giants, between the good and evil ruling powers of the universe, in which the former succumb.

"Sun is darkened,  
 Earth sinks in sea ;  
 So from Heaven fade  
 The shining stars.  
 How fire and smoke  
 Furious rage !  
 High leaps the flame  
 To highest Heaven !"

The scaldic art attained its greatest perfection in the 11th century—its Augustan Age—and declined in the 12th, through the artificiality of its votaries. Their poems were then overloaded with metaphor, or more accurately, with poetic periphrases that were called *Kenningar*. Finally poetry seems to have succumbed under their weight. All directness of expression was gradually lost, and even the gods were deprived of their names. Among other periphrases for Thor, we find "The gods' terrible friend" and "The giants' prover." For Midgaards serpent, in Norse mythology the serpent that encircled the world, we find "the earth's ring" and "the earth's stiff belt." "The brows' inner moon" denotes Thors' eye.

The oldest historical production in the Norse language was the '*Islendingabok*,' which, as its name indicates, concerned Iceland. It was written by Ame Frode (the learned), in the 11th century. Though it is very short, consisting of only ten chapters, each of which contains but two pages, it is very important as a historical source, and has considerable merit as regards style. Most of the *Saga*, which is a general term for all Norse prose narratives, treated of Iceland, and through them we have ample information about the life and institutions of ancient Scandinavian society. The Romantic *Saga* have a sensational interest. In Erik Skallagrimson's we find the typical Norman who was at the same time an athlete, warrior, sea-rover, and scald. In 'Grete's' we are touched by the misfortunes of the hero, an unhappy victim of fate. The latter is still the favourite *Saga* of Icelanders.

Snorre Sturluson surpassed all his contemporaries as a writer of historical *Saga*. He was a great Icelandic chief, and the

head of a powerful family. He was a man of the world, versed in the art of governing, who ruled his native island for some time. He was familiar with the courts of kings, and himself played a part in Northern history. He was wily and shrewd and not too scrupulous. He admired heroism more than virtue, and was not directly a moralist. An author, lately dead, a distinguished critic, who wrote an excellent history of Norwegian literature,\* held that Snorre, in the character of Norse historian, filled a place that is not dissimilar to Shakespeare's in the English drama. "Snorre," he wrote, "is from the first a critic; he does not relate anything without believing that he has an historical authority. His task is not to record what was said to have happened; he tries with all his power to recount what happened in reality. Later historical research has demonstrated that he has made mistakes, but such were inevitable then, and cannot be laid to Snorre's blame. The competent criticism, which he employed, of his predecessors, should rather be admired. His 'Saga of the Norwegian kings' is, from an historical point of view, the best and most solid work we possess about the old time, and for historians is a source of greater value than the Roman history of Titus Livius is for the students of the history of ancient Latium. Snorre is more of a rationalist than Titus Livius." . . . . "He describes the miracles he cannot omit in such a way that he does not appear to guarantee his statement. He is not nearly so advanced a rationalist as the author of 'Tageskinna.†' But he has the same tendency, and in this respect understands how to choose a happy middle course, that includes what is characteristic of the mode of thought of the period described, and what influences historical development, without mere gossip about legends. His rationalism is already pronounced at the commencement of his 'Ynglinga saga.‡' Odin and the other gods are not, in his eyes, mythical conceptions created through the people's religious needs, but ancient kings and chiefs whom legends, in the lapse of time, have altered and embellished. In this respect he has a certain affinity with the eighteenth century view of myths and legends, a view which the vast research of our century in this field has stamped as unscientific. . . . ."

Snorre's style has been taken as a model in our time; it was not till Ibsen had made a profound study of the Saga of the Norwegian king that he wrote a great drama; and even in the idyllic romances of Bjørnsen, the national poet, we hear an echo of the Iclander's voice.

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\* Henrik Jøeger: *Illustret Norsk Literatur historie*: Chistiania.

† An historical Saga, written in Iceland, by an unknown author.

‡ Saga of a race of kings said to have ruled both in Sweden and Norway.



After the Saga period, which ended in the thirteenth century, when Iceland lost its independence, and came into the permanent possession of Norwegian kings, for long centuries little was written in the old language of Norway\* that has any literary value. Yet ballads, legends and fairy tales were composed, and preserved orally, till they were collected and written down by researchers of our century. The ballads of Norway are not so wealthy as those of Denmark, whose literature in this respect has the foremost place in the North. Ballads relating to chivalry were not so general in Norway; but mythical and heroic ones were the most frequent. They often concern the person of St. Olaf—the national hero and canonized king—, who seems to have usurped the rôle held by Thor, among the gods of the older Edda. Norwegian fairy tales are still popular in our day, thanks to the labours of Asbjørnsen and Moe, who have saved these admirable stories from oblivion. Though some of them have features that are common to such productions among Aryan races, they have an intensely national stamp. The most popular type of character in these “Folkeeventyr” is Askeladen *alias* Askefusen, or Tyripons, all of which names denote the hero’s intimate connection with the domestic hearth, where the duty of keeping up the fire devolves upon him. He is the youngest of the brothers and occupies a despised and insignificant position in the household. Still he is a genius with both heart and head. When at last the occasion presents itself, he is transformed into a hero, and at the same time gives proof of his dexterity and ready wit.

Popular legends also are full of St. Olaf, whose axe has replaced Thor’s hammer, while his famous charger has been substituted for the rams of the God. In the historical legends it is, of course, very difficult to separate truth from falsehood. There is frequent reference to superstitious beliefs, with countless giants and gnomes, elves and sprites. Among supernatural beings we find ‘*Oskoreien*,’ who are spirits that have not done so much good as to merit Heaven, or so much evil as to deserve Hell. Among them were found drunkards, brawlers, lampoon singers and deceivers. Their punishment after death was to ride till the world’s end. It is especially at Christmas that their wild gallop flies past. Welhaven, one of the greatest Norwegian poets, has written a spirited poem on this subject; but he has erroneously made the gods take part in the Christmas ride.

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\* The ancient language of Norway, called Norse by English, and *old nordisk* or *norrone* by native writers, was the original and purest form of the Scandinavian family of languages; it retained its purity longer in Norway than in Sweden and Denmark, where it was corrupted through its blending with German dialects.

At the close of the fourteenth century Norway was united to Denmark through hereditary succession. It was gradually reduced to a subordinate position. The Norse language was officially replaced by the Danish, which became the literary medium, after the Bible had been translated into it. When the reformation had been forced upon Norwegians, native laws were gradually discarded in favour of Danish ; but feudalism, that struck firm root in Denmark, never prevailed in Norway. Land was held on an allodial tenure, and the peasantry had almost an unrestricted ownership. In their farmhouses and cottages they talked in the ancient and impressive tongue of their country, or in dialects that resembled it ; and after their native nobility and chiefs had in part died out, and in part decayed, when they were administered by Dano-German officials, this sound kernel of the peasantry preserved the nationality that has so effectually asserted itself in the present century.

For a long period, however, few Norwegian authors attained distinction in their new language, which differed considerably from Norse. The names of some minor poets, as well as their productions, have been saved from complete oblivion ; but it was not till Peter Daas wrote "Nordland's Trumpet," about the close of the seventeenth century, that Norway could boast of a native poet, though song had always been loved and cherished there. He was a local poet whose genius was racy of the soil, or rather of the sea on which he passed his life. The son of an immigrant Scotchman, Peter Dundas (corrupted into Peter Daas, in his adopted country), he was born in Helgeland, a maritime district of the province of Nordlandy, where he subsequently became a pastor. In his poem he has depicted the life led by his parishioners and the main features of their land. His verse is quaint and picturesque with a little of the freshness of nature. He pathetically refers to the dependence of his flock on the sea.

"And if, dear Lord, thou should'st withdraw thy hand,  
And bar the cod and all fish from the land,  
Our miserable end would soon be near !"

The perils of a pastor's existence in that wild district are recounted. He has several churches where he must hold divine service in turn ; they are often built on islands, whither he must sail on dangerous seas in stormy weather :

"And oft it haps, the preacher is drowned,  
He finds a grave in the deepest sound,  
To close his eyes, where the fishes swim !

"A servant of God, what should he mind,  
That a tomb his clay should be assigned,  
Which no mortal eye shall e'er behold !"



Norway's first great man of letters was partly a contemporary of Peter Daas. He was the famous dramatist, Holberg, who was born at Bergen, in 1684. His career was one of the most extraordinary among authors. He inherited a love of travelling from his father, who had been a soldier of fortune. When he was still a youth, he sold the last remnant of his property and made his way to Holland. After a precarious existence of some months in that country, he borrowed with difficulty sufficient money to return home. He had passed through the ordinary curriculum of the University of Copenhagen; but his real education was derived from his travels, during which he continued an eager student. After a short interval, in which he found employment as a tutor in his native land, he left the latter for the last time, at the age of twenty. He sailed to England, and entered his name as a student at Oxford, where he maintained himself by teaching languages and music. It was there that he began to obtain that insight into men and things that made him in reality a citizen of the world. He familiarized himself with English letters and English philosophy. His eyes were opened to the advantages of the latter. He was an admirer of Locke, and held in great aversion scholasticism and metaphysical systems. He had learnt to read the world and disdained the affectation of knowledge. On leaving Oxford, of which he had the pleasantest reminiscences, he took up his residence at Copenhagen, at whose university he became a professor. Subsequently he made a long sojourn in France and Italy, where he underwent some painful vicissitudes, and studied their culture and literature.

He had approached the age of thirty before he published his first work entitled "Introduction to the History of the European Kingdoms." Its style was lively and interesting. He had a higher idea of history than his contemporaries. He held that it should be a chronicle of civilization and not merely of kings and battles. His "History of Denmark," which appeared after he had attained to fame as a dramatist, is his historical work. But he was fettered by a rigid State censorship, so that he could not express his opinions freely. After he had returned from his "*Grand Tour*," he published an important philosophical treatise entitled, "Introduction to the Knowledge of Natural and International Law," in which he referred to the writings of Grotius, Puffendorf, and Thomasius, and approved their revolutionary teaching about the origin of natural law. He showed himself to be an innovator in the philosophy of law as well as in history. It excited the animadversion of the ecclesiastical authorities, and brought him into disfavour with the ruling members of the University. It was about this period that he was in such extreme poverty as to be

reduced to accept alms from the poor box of his Parish Church. At last, in 1818, it was his fate to be appointed to the chair of scholastic metaphysics, a subject that he detested and despised. Yet it was probably owing to the same subject that he became famous in the world. The disgust and aversion it inspired him with, found relief in poetry and satire. He was freed from the more pressing necessities of existence, and the laughable side of a world in which he had suffered so much, now particularly struck him. The empty disputes, held in solemn earnest, at which he presided in person, excited his sense of ridicule:

“ With syllogisms quiv’ring you saw the close-packed hall,  
The outstretched arm, while oft the tight-clenched fist would fall ;  
The salt drops trickled from the learned brow.— ”

“ Theological dissertations were at that period held with a view to determine whether the angels were created on one of the six days, and about Christ’s tunic ; philological theological dissertations about Lot’s wife’s transformation into a pillar of salt, about Absalom’s hair, Nebuchadnezzar’s metamorphosis into an ox, etc., etc. It was immediately after some such useful discussion that Holberg probably wrote his first great satirical poem.”

The latter recounts the adventures of Peter Paars, after whom it was entitled. He was a worthy young grocer, who sailed from the good town of Callundberg with a view to pay a visit to his *fiancée*, a maid servant in the service of a family residing at a little distance. He was accompanied by his clerk, Peter Ras. But the goddess of envy was so angered at the thought of the lovers’ meeting, that she hastened to Æolus, and finally persuaded him to let loose the winds. A storm burst upon the travellers. The masts fell overboard, and the ship was doomed to destruction. Peter Pars, however, showed himself in an heroic light, and bravely exhorted the sailors until sea-sickness overwhelmed him. His clerk followed his example with the same result. “ It was a fearful gale and a poetic storm.” At last the goddess of Love took pity on them. She flew to Neptune and complained. Yielding to her entreaties, the sea-god addressed the winds in a thundering discourse and compelled them to creep into their mountain again. But it was too late ; the ship had been driven on land, though none of the crew perished. The author then describes the fate of the hero and his companions on the little island of Anholt, where they were shipwrecked. They underwent many dangers, were plundered by the natives, fought an heroic combat, and were finally imprisoned. Their misfortunes were aggravated through the superstitions of the islanders. At last kind Venus came again to the rescue of her *protégé*, and inspired the daughter of



the sheriff, in whose house he was a prisoner, with a passion for him. The love-stricken maiden aided him and his clerk to escape, but, like Dido, she was abandoned on the sea-shore, and witnessed the ship that carried her Æneas vanish in the distance. He reached Jutland in safety, where he met with further extraordinary adventures. He was confined in a madhouse and enrolled as a soldier by a wily recruiting officer, etc. The poem was left intentionally unfinished, and abruptly terminates when Peter Paars is on the point of finding consolation for all his sufferings in the arms of his betrothed.

It has a triple satiric range; it parodied the stereotyped classical metaphor, with which no Danish poet, at least, who respected himself, could at this period dispense; the artificial sentiments, exalted rank and high-flown language of the heroes and heroines of classical French tragedy—a worthy young grocer is substituted for the conventional Marquis, and a servant maid for the noble dame—and lastly the small superstitions and defects of his adopted country. Holberg chose the island of Anholt as typical of Denmark. He covertly ridiculed the somewhat restricted and narrow-minded society of that little country, and he struck at the same time a smart blow against its deficiencies.

Peter Paars, as soon as it was published, attracted the greatest attention, and ran through several editions. It won the applause of the partisans of modern literature—the comparative merit of modern and classical letters was precisely at this epoch a subject of eager controversy—; but it excited the anger of the inhabitants of Anholt and the University authorities. The former denounced it as a mendacious calumny, and the latter as an attack on religion and their *Alma Mater*. An accusation was brought against the author and handed in to the royal council. After a long deliberation, in which the king took part, the charge was dismissed as not meriting “resentment” or “high punishment.”

The caprice of a foreigner was the immediate occasion of Holberg's first comedy. A French theatrical director, who resided at Copenhagen, took it into his head to make trial of a Danish play. At that date there was no national theatre in Denmark, which was only visited occasionally by a travelling French or German Company. So Holberg wrote, in the year 1712, “The Coffee-house Politician,” which was excellently played with the help of some French actors, acquainted with the Danish language. It was a scathing and amusing satire against the taste for political discussion that had become general among all classes of society at the commencement of the eighteenth century. It was the more ridiculous in Denmark and other arbitrary monarchies, where

people who had no influence on the destiny of their native land, undertook to decide the fate of Europe, to the neglect of their business and households. Holberg was the more incensed against these would-be politicians, that they often included project-makers and their victims. This was the period of the South-sea bubble and Law's financial schemes, which had ruined thousands.

At that stage of Denmark's history the capital was so little Danish in character that a national drama could not thrive ; for the upper classes and court talked in German, and plays acted in that language were preferred. Within five years after the appearance of "The Coffee-house Politician," the theatre became bankrupt, on which occasion Holberg wrote the Danish Comedy's Funeral. When Christian VI. ascended the throne, in 1830, the narrow-minded religious views of his court prevailed to such an extent that the theatres were closed by order of the Government, and thus Holberg's great career as a dramatist was brought to an abrupt conclusion. When the king died, and the theatres reopened, sixteen years later, his great powers had declined. The six comedies he then wrote showed none of his former talent. His title to fame rests upon his dramas ; yet he was almost forty years of age before he composed his first comedy, while he wrote his last great one in the hey-day of his life. In the short space of five years he wrote sixteen plays that have won a permanent place in literature. In the latter period of his life he wrote several histories ; a prose satire on the model of 'Gulliver's Travels ;' "Moral Tales" that were remarkable for the broad religious views they contained, and 'Epistles' which are almost autobiographical in character and contain most interesting references to contemporary society in Copenhagen.

Perhaps the most popular of his plays is "Jeppe of the Mountain." It is rather a comedy of human nature than a satire. He has here described with inimitable humour and truth a Danish peasant, but belonging to a type which time and reforms have completely modified. Dr. Georges Brandes, the well-known Danish critic, maintains that in this play he has given us a brilliant and all-sided portraiture of character that resembles Shakespeare's. "When we have read the play," wrote Henrik Jøger, "we know the man as though we had lived near him for years. We learn not only that he drinks, but why he drinks, and all his household cares and concerns. . . . We have a moving impression of his love for his children, and his domestic animals, from the apple of his eye, 'daughter Martha,' to 'Feyerfax,' his faithful hound and house-guard ; from his dappled horse, about which he says that "next my own children I have loved no beast so well as thee," to Mew, the black cat,



for which he has a farewell message at the moment he believes he is to die.

In "Jean de France," which is still a household word throughout Scandinavia, he has wittily mocked the affectation of foreign habits and speech in a period of Gallomania. In "Jacob von Tibboe" he has satirised a type of swaggering soldiery then common in Denmark, where German mercenaries tyrannized the good citizens of Copenhagen. But he took care to make Jacob a pretended soldier, and thus saved himself from the persecution of brothers-in-arms. In "Ulysses von Ithaca" he parodied German comedy, and at the same time made the divinities and heroes of antiquity play an amusing rôle in the Danish capital.

Holberg was weary of the constant intrusion of classic myths in modern literature. "Paris pronounces his judgment like a Danish pettifogger, and Juno and Pallas pay their fines as Copenhagen market women, who have indulged in rude abuse." Holberg preferred to choose his characters in the lower ranks of society. The higher classes and court circle were so German, that he could not find in them either national or natural types, with whose help he could effectually moralise, or reason soundly. He was, above all, the dramatist of good sense and sound reason, who, in Copenhagen and the north, continued the work of Moliere, without plagiarising. He adapted some of the characters in the plays of Plautus and Terence, and he was indebted to Athenian comedy; but he was not the less original. He was also a great literary reformer, who refined the language and rendered the ponderous classical imitations of the time ridiculous. He was a great observer, and his "Epistles" contain the best account of contemporary society. He accepted the title of baron at the close of his life, but it is said only with a view to raise the status of literary men, of whom he was most distinguished representative in the North. Both Norway and Denmark claim him, and his character was essentially Norwegian, though his culture was European, and his habits of life were Danish.

After Holberg's death, which occurred in 1754, German influence in literature increased in strength. German literary men were invited to the Danish Capital by royalty, and among them was Klopstock, the first great romantic poet of his country. The author of the "Messias" found an apt pupil in a young Danish poet, John Ewald, who became the chief representative of the romantic school of poetry in Scandinavia. He was not without genius and had great imaginative gifts, but he was not free from the inflation and exaggerations of his model. He wrote several plays that have won a high place in literature. His poetry induced much adverse criticism, as

well as admiration, and Norwegians, whose culture was rather English and French than German, were among the first to protest against a foreign tendency that seemed incompatible with their national genius.

Meanwhile a new poet had appeared. He was Tullen, a native of Christiania, where he lived and wrote. He was a popular member of the Norwegian capital's society, which at that time was gay and wealthy, if somewhat restricted. It was permeated with a strong Anglomania in which the poet shared. He acquired a taste for English poetry, which he admired and imitated. Holberg had introduced English thought into the common literature of Norway and Denmark, and now Tullen brought English poetry into fashion. His most famous composition was a descriptive poem, entitled "May-day." He has been called "The Evangelist of Nature," and he was the first essentially descriptive poet of the two countries. His model was Thomson, the author of "The Seasons," who was the precursor of the natural school of poetry on the Continent. "May-day" marked a complete change in the common literature. Its chief merits were its simplicity and clearness, which contrasted favourably with the artificial style of the time, and the clouded metaphors of the new romanticism. It has not retained its popularity to the present time, for it has an old-fashioned flavour that is now scarcely acceptable.

When Tullen wrote, Copenhagen contained many Norwegian residents, and its University was frequented by Norwegian students. They distinguished themselves by a national spirit and sentiment that increased in strength, though they were extremely loyal to their Danish kings. Following the custom of the time, they formed coteries and frequented coffee-houses. When a Danish society was founded for the promotion of "the fine and useful sciences," the Norwegians imitated this example and established, in the year 1772, "The Norwegian Society," with a view to defend their own literary opinions, and to resist the influence of Ewald and his school. Welhaven has thus referred to the literary situation in Copenhagen at this period :

"With Ewald's appearance there began a new competition between both peoples' representatives. The Norwegian Holberg, though he had not completely cast off his nationality, still only asserted it occasionally, while he often expressed his sense of obligation to the people in whose midst he could develop a remunerative activity. Amid the universal homage paid to his name, it cannot be perceived that contemporary Norwegians prided themselves on his fame, or claimed for Norway his merits. But now another Norwegian marked a turning point in letters. All Danes even recognized that Tullen was at the



head of the poetry of the common language. But this did not last long. Ewald's fame began to cast Tullen's into the shade, and, indeed, long before people could free themselves from the prevailing taste that had given the Norwegian poet the prize. . . . In reality the Norwegians were not against Ewald—many of their society recognized his genius—, but they were opposed to the third-hand imitators of Klopstock, who belonged to the Danish society. The Norwegians who struggled against German literary influence were the precursors of their national literature."\*

Another society of Danes, called "The Danish Society," was established ; it was formed principally to defend Ewald and his school, but it also contributed to develop a national Norwegian literature in opposition to its views.

Let us enter or fancy that little tavern, in a back street of Copenhagen, where "The Norwegian Society," that kernel of a resuscitated nationality, held its meetings. In a room full of tobacco smoke and the fragrance of punch, we should find the president of the society reading from a large register, called the 'Verse Protocol,' one of the poetic effusions weekly contributed, while the exhilarated audience proffered its criticism and adjudged the prize. Among their number we should be struck by the imposing figure of Nordal Bruuin, the future patriotic bishop and lyric, who had just written a tragedy, to show his wit, and had been hailed as a great poet by Nils Bredahl, who had helped to reform the common language, and had written in it the first singing play and had excited a celebrated theatre feud ; Fasting, the clever epigrammatist and play writer, who denounced kings, and defended liberty ; the brothers Fremann, who were almost the first to appreciate the picturesque features of Norway, and above all by John Wessel, the soul and life of the new society, which was permeated with his spirit. His bright, clear intellect, with its keen sense of ridicule, was the mainstay of the Norwegian literary battle that was waged with German obscurantism. Yet it was against a French mania that his most important work, the comedy entitled "Love without Stockings," on which his chief title to fame rests, was written. At that juncture French tragedy had begun to come into vogue in Copenhagen under a Danish cover. It became the fashion there when it was being discarded in Paris. Voltaire's 'Zairé' had been translated, and had had a great success on the stage, Bruuin had just written his tragedy, 'Zarin,' after the same pattern. But this was more than Wessel could endure. Six weeks after Zarin had been received with applause, he wrote his famous comedy, turning the affectation

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\* Welhaven : Samlede Skrifter : Kjoebenhavn.

and sentiment of French tragedy into ridicule, while the people joined in his laugh.

In his comedy of "Love without Stockings," Wessel followed the example of his great predecessor, Holberg, whose plays replaced the drama of Corneille and Racine. He chose his characters from the lower ranks of society, to parody more effectually the exalted personages of the French tragedy with their forced pathos and stereotyped combats between the dictates of passion and virtue. His hero is a tailor's apprentice, John, who is betrothed to the heroine, Grete, who is of the same social status. The latter has a dream that she will never marry except on the following day. John, however, intreats her for a short delay. He has no stockings, and honour will not suffer him to stand in bare boots at the marriage ceremony. When Mad Madsen, who is the rival of John, learns the latter's embarrassment, he immediately pays court to Grete, who, for fear of incurring an old maid's fate, accepts him and philosophises :

\* First t'was John that sent me fate,  
But now its Mad that I must mate."

\* \* \* \* \*

When Mette, Grete's confidante, hears of her intention to transfer her hand to Mad, she advises John to steal a pair of stockings from Mad's wardrobe. She reminds him then of his impending struggle between love and virtue, and John begins to pose :

"My heart is rent,—pain and strife my fate."

He holds that love and virtue are incompatible, but at last resolves :

"My darling virtue has the vict'ry won,  
For she the hero's heart must rule alone."

But his resolution breaks down when he reflects "on which side fortune will lean." Finally he steals the stockings, and with their help returns to his former position as Grete's betrothed, after the suspicions which their appearance had excited had been dispelled by himself. When they are about to proceed to church to be married, Mad enters the room, points to his initials on the stocking, and convicts John of theft. Thereupon all the persons concerned stab themselves, committing suicide from different lofty motives, love, honour, remorse, *etc.* This tragic-comic finale was perhaps the great hit of the piece. Vulgar Johns, Gretes and Mettes had copied and surpassed their lofty models in classical French tragedy, which has never since recovered its popularity. It had an immense success; people used to repeat long passages by heart, and it is still a favourite at the present time.

Wessel did not add another masterpiece to his literature, though he wrote some brilliant and witty comic poems. He



died in 1785, leaving no successor to his fame, and with his death closed the most eventful and active period in the history of the Norwegian Society, which soon after lost its influence. But it had already played a most important rôle. It had helped to develop a national literature and had almost restored Norway to the Norwegians by its fostering care of their muse. It had favoured the choice of national subjects as the theme of their poesy, which now preferred the wild scenery and characteristics of their country. It is true that German romanticism had no little influence on many Norwegian writers ; but the clearer and more natural genius of the land prevailed. We breathe with them a draught of air from their snowy fields ; we hear the rude accents of their peasants, and the voice of the ocean, breaking upon their rocky coast and innumerable islets, is audible. Its best authors at this period were either poets or song writers, and included Brunn, Rein and Storm. The last was one of the first to compose national ballads and to use a native dialect. His "Sinclair's ballad", has retained its popularity to the present day.

It was not, however, until Norway was separated from Denmark and had acquired constitutional liberties, at the beginning of the century, that her literature made a great advance. At first it was greatly influenced by the later Danish school of romanticism, whose leader was Oehlenschläger, "The Scald of the North." In the third decade two rival poets began to dispute popularity. Welhaven, the representative of classical culture, purity and clearness of style and the modified romanticism of the time, and Wergeland, who was the more original genius, the apostle of humanity, freedom and nationalism, and who contributed some of the most beautiful lyrics of the language. Their feud was the great event of the time.

Subsequently the ardent study of folk-lore and of saga enhanced the nationalist tendency, and both Björnson and Ibsen underwent the prevailing influence, though their writings have latterly had a universal character. To-day the literature of Norway is not without influence in Europe and merits the most careful study.

A. L. HOLMES.

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ART. VII.—THE PRESENT POSITION OF MEDICAL SCIENCE WITH REGARD TO CANCER.

ON the 10th of April last it was announced in the *Paris Figaro* that a Dr. Bra of Paris had discovered the microbe of cancer. Dr. Roux, the Director of the Paris Pasteur Institute, on being interrogated, said that he did not even know Dr. Bra by repute, much less had he heard of his discovery.

In England people have been stirred by the recent publication of a special Cancer Number of the *London Practitioner*, which periodical by its Tuberculosis Number so successfully started the present campaign against consumption.

As public interest in India has been aroused by Dr. Bra's announcement it will doubtless not be unwelcome to a few to learn the actual state of medical science at the present time with regard to this most justly dreaded of all complaints. One is being continually beset with the question: Is cancer increasing? In England and Wales, during 1840, cancer was set down as the cause of death in 1 out of every 5,646 of the population living, and in 1896 as the cause of death in 1 out of every 1,306 of the population. This is a terrible tale, but happily the statements require considerable qualification. Every decade shows that increasing care is being taken in the registration of the causes of death. Formerly many cases of undiagnosed fatal cancer affecting internal organs would be returned as having died of debility, intestinal obstruction, etc.; for it is beyond question that the diagnostic powers of the medical profession, as a whole, have greatly improved in the last 60 years, during which time systematic registration of the causes of death has been in force in England and Wales. It is the opinion of Dr. Newsholme, the well-known authority on vital statistics, that, as far as England and Wales are concerned, the increase of cancer is more apparent than real. But, though there is no reason to think that cancer is markedly on the increase in England and Wales, yet it figures as the cause, in 6% of the males and in 7% of the females, whose deaths are registered as taking place over the age of 45. It kills annually  $\frac{3}{8}$ ths of the number claimed by consumption; it claims four times as many victims as enteric fever, and neither measles nor whooping cough can show such a large annual death roll.

In New York State in 1887, there were 2,363 deaths from cancer and 11,609 deaths from consumption; but in 1898, cancer caused the death of 4,456 persons while consumption destroyed only 12,552. These figures look very alarming, for in ten years we cannot say that diagnosis as an art will show as



much improvement as in 50 years, and in the same short period, there would not be such a marked difference in the accuracy of registration. However, we know that the mortality from consumption has decreased in the last ten years, and is still decreasing everywhere, and a higher mortality rate from cancer will naturally be evident when we consider the phenomenal increase in the last ten years of the population of the State of New York and more especially of New York City.

Before going further it would be well to explain the nature of a cancer. A cancer is a tumour which, if left to itself, pursues a malignant fatal course. There are other tumours of the body which are quite benign in their nature and do no harm whatever to their host. The human frame, like all other organised bodies, is composed of various tissues, a tissue being any agglomeration of cells governed by a common law of growth. We speak of osseous tissue or bone, cartilaginous tissue or gristle, and fibrous tissue which enters into the composition of the sinews and the ligaments that unite the bones together. These tissues form the supporting framework of the body. Besides these there are other structures known as epithelial tissues; which enter into the construction of the skin and the mucous membranes which line the alimentary canal and the air and urinary passages; epithelial tissue is also present in glands such as the breast and the liver.

When these tissues obey their common law of growth the body remains in health and the different organs perform their functions properly. When however, the cells composing these tissues run riot and disobey their common law, then growth becomes irregular and benign or malignant tumours result.

Cancers are divided into two main groups: (i). Sarcomata, which for the most part occur during the growing period of life, and can primarily affect all organs, but chiefly attack tissues forming the supporting framework of the body. (ii). Carcinomata, occurring essentially in the degenerative period of life, and arising primarily in organs composed of epithelial tissue. Both groups of cancers differ widely in their degrees of malignancy, some of the sarcomata being especially fatal.

Cancers are also divisible into many sub-varieties, whose distribution is largely influenced by the nature of the parent tissue from which they primarily spring; in fact, each organ and tissue of the body, as a general rule, will be primarily attacked by its own peculiar varieties of cancer, for instance, the variety of carcinoma peculiar to the intestine will not be found primarily affecting the breast.

We do not know yet why benign tumours should form in the body; but in the case of cancers, the recent discovery of parasitic micro-organisms leads us to infer that their presence

in the cancer is connected with the origin of the malignant new growth.

The question of the contagiousness of cancer was raised as long ago as 1649, when Zacutus Lusitanus, a surgeon, related the case of a poor woman who slept with her three boys. Two of these were in a few years dead of cancer and the third contracted the disease, which was successfully treated by operation. In 1672, Nicolaus Tulpus, after quoting a case of cancer in a servant who nursed her mistress suffering from the same disease, delivered himself of the opinion that "an ulcerated cancer was just as contagious as inflammation of the eyes." In 1773, the subject was discussed at a meeting of the Lyons Academy of Medicine; but the question was afterwards allowed to drop. Although evidence has been accumulating which points to cancer being contagious, it was not until 1889 that trustworthy evidence was forthcoming. In 1889, Professor Thoma described bodies with nuclei in cancer cells, which he called parasitic micro-organisms. Dr. Russell, in 1890, in the *British Medical Journal*, described bodies in cancer cells which he showed to possess a great affinity for the aniline dye fuchsine. M. M. Soudakewitch and Metchnikoff, two Russians, published, in the *Annals of the Paris Pasteur Institute* for 1892, papers describing parasitic bodies in cancer cells, and the latter of the two observers, after further work on the subject next year, called these parasites protozoa.

Dr. Sanfelice of Cagliari, Dr. Roncali of Rome, and Mr. Plimmer of London are among those who have been working most recently on the subject and they have made numerous examinations of cancerous tumours of every variety. They have all seen these parasitic bodies, and it is now agreed that they are blastomycetes, a variety of the yeast family in the vegetable kingdom. In order to demonstrate these parasites, great care and accuracy have to be observed in the preparation and staining of the specimens for microscopical examination. Mr. Plimmer has found the parasites in 1,130 cases out of a total of 1,278, and in the cases where he failed to discover them, the tumours had begun to degenerate or had become dense and fibrous in structure, which, we shall see, is the way in which Nature tries to effect a cure.

The parasites are round bodies varying in size from  $\cdot 004$  to  $\cdot 04$  of a millimetre; the most powerful microscopes therefore are necessary for their examination. They are not found in every part of the cancer, but are to be always met with in the growing edge of the disease, and are most numerous in rapidly increasing tumours. These round bodies contain a nucleus which stains differently from the rest of their structure. They reproduce themselves by a budding out, or projection, from



these nuclei, these buds or projections eventually separate from the parent nucleus, forming two nuclei and afterwards separate parasites. This process can be made out in all growing cancers.

To have isolated parasitical bodies from the cells of a cancer was certainly a great step towards finding out the nature of the disease; but, to render the work complete and afford convincing proof of their parasitical nature, it was necessary to show that these parasites could be cultivated in suitable media outside the body, and that inoculation of a pure culture thus obtained could produce cancer when injected into the tissues of a living animal.

Dr. Sanfelice in 1894, isolated some blastomycetes from certain fruit juices and found that injection of these into animals led to the formation of tumours at the site of injection. Mr. Plimmer, after numerous trials, discovered a medium on which the parasite could be grown. This medium is prepared by taking pieces of cancer freshly removed from the body and making an infusion of them in the same way as an ordinary beef tea is prepared; to this infusion, when rendered neutral in reaction, glucose or grape sugar 2 per cent, and Tartaric Acid 1 per cent., are added. Into flasks containing this medium very small pieces of fresh cancer are placed, with every precaution against possible contamination with any other microbes. The air in the flasks is then exhausted and Hydrogen gas substituted for the air. By this process the conditions present in the body when cancer is growing are as nearly as possible imitated, the air which is not present in the human tissues even being excluded.

In 48 hours, at a suitable temperature, the contents of these flasks become turbid, and this turbidity increases until the 6th day, when the turbidity, or growth, sinks to the bottom of the flasks, leaving the fluid quite clear. By growing in Hydrogen gas the virulence of the parasite is maintained for months, whereas in ordinary atmospheric air the parasite grows badly and soon becomes attenuated in virulence.

This culture has been successfully propagated in the guinea-pig by inoculation into the belly cavity of these animals. After being thus treated, guinea-pigs usually die in from 12 to 13 days, and, *post mortem*, the liver and spleen and bowels are all studded with new growths the cells of which contain the parasites, the liver shows in all cases great destruction of the liver cells, a condition frequent in the human liver when affected with cancer. In the case of a guinea-pig which survived inoculation for 20 days the lungs were found studded with new growths.

It is quite possible that the presence of this parasite in the

interior of the cells of a tissue is sufficient to render those cells disobedient to their common law of growth. We will suppose that the coating of epithelial cells on the surface of the tongue becomes abraded by long continued friction against a jagged tooth, or that the vitality of these cells is lowered by persistent tobacco irritation, whereby the parasitic micro-organism of cancer enters these surface cells; then these parasites, having found a suitable field for growth, begin to multiply, and the epithelial cells, no longer obeying their common law of growth and coating the surface of the tongue, begin to penetrate and grow into the body of that organ, which is largely composed of muscle.

Immediately the healthy tissues are attacked, Nature makes her best efforts to fight the enemy. Those scavengers of the body, the white corpuscles the blood, leave the blood vessels where they have been circulating in the neighbourhood of the new growth, and advance into the adjacent tissues and do their best to kill the parasite. With this influx of white blood corpuscles, the tissues round the area attacked by the micro-organism become very dense and eventually almost fibrous in character, the blood vessels here situated become compressed, and the cells in the centre of the growth, through receiving an insufficient supply of blood to nourish them, undergo degeneration and die. The nerves are compressed also in the same process giving rise to pain.

If the system reacts strongly against the invasion of these parasites, this dense fibrous tissue formed round the growth may suffice to include and starve it, a natural cure thus taking place. This has been seen in some cases of cancer of the breast. But if the powers of resistance are feeble, the parasites will advance rapidly into the adjacent tissues destroying everything, and will also be carried by the lymphatic vessels to the neighbouring lymphatic glands, and may even be carried by the blood current in the veins and be deposited in the lungs, and, in fact, in any part of the body forming what are known as metastases, or secondary growths.

In cases where the original cancer is situated near the surface of the body, say in the breast, the parasites advance in every direction and eventually attack the skin, which gives way, producing a fungating sore. The cells in the centre of the tumour, which, we have already seen become degenerate and die from want of nourishment, will be cast off at this fungating site, with the foul discharges that add so much to the horror attending cancer when its growth has not been checked.

Death comes at last, sooner or later, as a merciful release to the sufferer, racked with pain and worn out by exhausting



discharge, generally through some intercurrent disorder brought about by the dissemination of the parasites and the formation of secondary tumours in some of the vital organs.

The geographical distribution of cancer has received much attention, and maps have been made of England and Wales on which the incidence of cancer in the different districts has been represented by various shades of blue and red. Districts where the cancer death rate is above the average for the whole country are shaded blue, and districts are shaded red which show a low average. In the study of one of these most interesting maps, one's attention is drawn almost at once to the fact that nearly the whole of Wales and the North-West part of England are coloured red, these form the most elevated and best drained districts of the country and geologically belong to the oldest periods, the Silurian and Carboniferous. The highest death rates of all from cancer are to be found in those low lying districts liable to seasonal floods. Geologically these high mortality areas lie on alluvium or clay subsoils. The maps recently made tell the same tale as those made 40 years ago, but the reason for this peculiar distribution of cancer must for the present remain unsolved.

The topographical distribution of cancer in small areas has not been neglected either in the last few years, and the evidence which is daily forthcoming tells us how cancer is to be found localised in certain villages, houses, and even rooms. It will not be possible within the limits of an article like this to give more than one or two examples. During a period of 23 years, in a small area of the little town of Luckau in Germany, there were 73 deaths from cancer, and in one house as many as 4 deaths occurred. Mr. D'Arcy Power of London relates the case of a new house in the country, in England, where a man lived whose great aunt died of cancer of the breast; the man himself died, aged 26, of cancer of the groin; his successor in the house died of cancer of the rectum, and his successor again died aged 36, of cancer affecting the brain. The same author, in an article recently published in the *London Practitioner*, describes one of these small cancer districts in England and illustrates the article with a map showing that cases of cancer occur chiefly in houses lying near the streams that water the district. In this particular district from 1872 to 1890, 173 cases of cancer were observed, 59 in males and 113 in females. Of the 173 cases, 81 were cases affecting some part of the digestive tract. This seems to show that the infection enters the system in food or drink in nearly half the cases, but on this question we cannot as yet speak with certainty. The geographical and topographical study of cancer furnishes material that goes a long way to substantiate the view that cancer is contagious.

Cancer is not by any means confined to the human race ; cancerous tumours of several varieties have been seen and even removed by operation from all the domestic animals, and cases are on record where the disease has been conveyed from men to animals and from animals to men. Cancer seems to be almost unknown in the domestic pig.

As regards origin, in few diseases has there been so much theorising as in cancer. The irritation theory has been for a long time prominently before the medical profession. Where bones have been struck and muscles strained, sarcomata have developed ; the irritation of the mouth-piece of a tobacco pipe has produced cancer of the lip ; even friction from the bridge of a pair of spectacles has led to cancer of the skin of the nose. But the irritation theory will not hold water in every instance, as cases of cancer occur in organs far removed from irritation of any sort. The most that can be said of irritation as a cause of cancer, is that, by its abrading action, or perhaps by lowering the vitality of certain cells, it favours the admission of the parasite. That Drs. Sanfelice and Roncali have found blastomycetes in certain fruits and from them reproduced tumours in animals, will give a fresh argument to those who believe in the "tomato theory" of the origin of cancer. It is not certain how this theory was started ; but it has many adherents and is a great favourite with the general public.

A great deal has been said from time to time about the hereditary nature of cancer, and one repeatedly comes across instances where the heritable nature of the disease is most marked from generation to generation. But that the disease is universally heritable is open to doubt, for it was shown by Professor F. S. Dennis of New York, in his presidential address at the opening of the American Surgical Association in 1895, that, after a careful examination of statistics, a history of heredity was only found in about 4 per cent. of the cases under review.

So far as we know, cancer like consumption (tuberculosis), is not directly transmitted from parents to children, and now that the infectious nature of tuberculosis is established, it is generally admitted that the heritable nature of consumption takes the form of a transmission of general delicacy in the individual which renders him or her prone to the attacks of the microbe of tuberculosis. It may be that a similar predisposition is transmitted in the case of cancer, for we constantly see how differently individuals react when attacked by the same form of cancer in similar organs of the body. In one case the system appears to make no stand against the disease, and a rapidly fatal result is the consequence, whereas, in another individual the



same variety of cancer will be held in check and may remain quiescent for years ; in fact, may actually shrivel and disappear.

It remains now to show how far at the present time medical science can combat this disease. As matters stand, it is only from surgery that any hope can be obtained of eradicating cancer. The discovery of the anæsthetic properties of chloroform and ether, and the work of Lord Lister in bringing about the rapid healing of wounds, have made the most extensive dissections possible, and blood poisoning after operations ought to be a thing of the past. For surgery to be successful, cancer must be recognised early and an operation must aim at a thorough removal, not only of the palpable tumour and the adjacent fat, but also of the nearest lymphatic glands. In the case of cancer of the breast, not only must the cancer itself be removed, but the fat and the lymphatic glands in the armpit must also be taken away. Care has, in addition, to be taken not to infect the wound made at the operation from the cancer itself, or from any of its discharges, for there is not much doubt that the parasite would easily infect a fresh wound and start a new focus of disease at the infected spot.

If, after a thorough operation, a patient remains well for three years without any signs of a relapse, a cure may be said to have resulted. In the case of cancer of the breast the most recent statistics have shewn that in nearly 50 per cent. of the cases there was no sign of recurrence after three years. In cancer of the lip, successes, *i.e.*, a three years immunity after thorough operation, have been obtained in over 40 per cent. of the cases. Cancer of the tongue, palate and throat do not show such good percentages of success ; still good results are seen in the case of the first two organs.

Cancer of the interior of the larynx has been removed with success ; but, as before said, that depends on an early recognition of the disease.

Much good work has been done in the treatment of abdominal cancer. The whole stomach has been removed with success, and it has been shown that man can live very well without a stomach. From the intestine cancerous tumours have been removed, and with the divided ends of the intestinal tube stitched together digestion has been carried on with perfect success, without any recurrence of the disease in a large number of instances. Even where the disease is so extensive as to be incapable of removal, by uniting the bowel above and below the site of the disease, short circuiting it in fact, digestion can be successfully carried on and otherwise inevitable and rapidly fatal intestinal obstruction obviated. The womb has also been extirpated for cancer with gratifying results.

Even where the whole of the cancer-affected area cannot be

removed, as in some cases of cancer of the tongue, yet the removal of the primary disease in the tongue materially adds to the comfort of the patient and renders his last days bearable and free from the pain and discomfort attendant on the presence of a foul fungating tumour in the mouth. The disease in such a case will be present in the lymphatic glands of the neck and chest and continue to spread and be disseminated in the various organs of the body, like the lungs and liver, and a fatal result will ensue of course; but this secondary development of the complaint is not a tithe so terrible as when the primary focus of the cancer is permitted to remain.

In 1866, Professor Busch described how, after erysipelas had attacked a woman suffering from multiple cancer of the face, the tumours promptly broke down and disappeared. Since then other cases have been reported where accidental attacks of erysipelas have led to amelioration and even cure in patients suffering from cancer. On the strength of these reports, early in 1892, Dr. W. B. Coley, of New York, began treating cases of inoperable cancer by injecting in and around the tumours pure cultures of the microbe of erysipelas. The proceeding was not without some risk; but anything is worth a trial in hopeless cases. The reaction in several instances led to marked improvement and a cure was even reported. Since then Dr. Coley has worked with a mixture produced by cultivation, of the microbe of erysipelas and another microbe, known to bacteriologists as *bacillus prodigiosus*, together in soup, and afterwards heating the mixed culture to a temperature of 58° Cent. The treatment is carried out by giving daily increasing doses of sufficient strength to produce a mild reaction. The results are very remarkable, and many of the patients steadily gain in weight. The treatment should, however, be abandoned after three weeks if no improvement results, for beyond that time further trial is useless. Dr. Coley's results with this treatment may thus be summarised; of 148 cases treated, 18 were finally cured, which result is a matter for congratulation, seeing how in all these cases the disease had progressed beyond operative treatment and was otherwise hopeless.

Dr. G. E. Herman, of London, has recently published two cases of recurrent cancer of the breast which disappeared after removal of the ovaries, aided by the internal administration of extract of the thyroid glands of sheep and oxen. Cases have also been reported by other observers where the same treatment has been followed by success. It is hard to say to what this success is due; but it seems certain that the ovaries, besides their reproductive functions, exert some influence on the nutrition of the breast. The use of electricity in inoperable



cancer so far has been generally attended with failure, and the same may be said of local injections of alcohol into the tumour.

The entire animal, vegetable and mineral kingdoms have been ransacked to find drugs likely to be of use in the treatment of cancer. From time to time Arsenic and Chian Turpentine are brought forward as valuable agents, but systematic trial is invariably attended with failure.

Several Russian physicians have, during the last three years, drawn the notice of the profession to the properties of *Chelidonium majus* (Celandine). The drug, given in the form of an extract internally or hypodermically, has been used for the treatment of cancer for a long time ; but the wonderful powers attributed to it seem to rest on evidence obtained from insufficient and unsystematic experiment.

As is only natural, quacks abound everywhere for the treatment of diseases like cancer. When the real nature and rational treatment of any particular disease have been scientifically worked out, then the quack leaves that disease for other more profitable fields. For instance, there is no money in smallpox in a well vaccinated community, and Behring's antitoxin has taken the bread out of the mouth of the charlatan who would get his living by vaunting a new secret remedy for diphtheria, while, in the case of hydrophobia, the Pasteur Institutes established all over the world, but in Malta alone of all the British possessions, afford a certain means of cure for those who will avail themselves of the antidote that Pasteur discovered.

In the treatment of cancer we hear of various pastes being recommended for the painless (?) removal of cancers without recourse to the knife. These pastes are generally formed on a basis of Chloride of Zinc, or one of the strong mineral acids. Cancers, it is true, have been thus burnt out with success, but painless these pastes certainly are not. There is no means of telling whether the disease has been entirely removed, and often, by their use more living healthy tissue is removed than is necessary. The result of their application is an angry sore which heals slowly, like any other burn.

The most arrant fraud of modern times has been Count Mattei's cure. In 1890 and 1891 the coloured electric globules in spite of their being proved to contain only water, were boomed during the London season, and, as usual, the promoters waxed fat on the eternal gullible of the human race. Except in India, where there still appears to be a sale, the remedy has been thrust into the limbo where, no doubt, it will remain until another enterprising member of some aristocracy brings it forth in a fresh dress to defraud and disappoint other victims of hopeless inoperable cancer. Cancer, in common with

benign tumours and warts, is known to disappear of its own accord, and there is no doubt that instances of this sort have swelled the number of successes of not a few quacks.

Cholera, plague and cancer are alike in being very fatal, and the first two can be kept from spreading in cleanly communities by efficient hygienic means; but cancer so far seems to be quite without the pale of modern sanitation.

The task now before the medical profession is to labour still to elucidate the natural history of the cancer parasite. It will be by scientific experiment only that an unfailing cure will be discovered. Having so far succeeded in isolating and cultivating the parasite that causes cancer, it is to be hoped that in the near future advances will be made in the preparation of some antidote whereby the growth of the micro-organisms can be controlled. We may yet see, as in the case of diphtheria, hydrophobia and tetanus, some means given to us whereby the mortality of cancer may be lessened and patients spared the horrible sufferings they now endure. At present early and thorough operation gives the only hope of prolonging life.

ARNOLD CADDY, F. R. C. S.

*P.S.*—By last week's mail we learn that the Cancer Society was inaugurated on June 7th in London. This Society has been organised to combat the supposed recent increase of cancer. The following are the objects of the Society: (1) The improvement of technical medical education (2) to give popular instruction in elementary health laws bearing upon the prevention, amelioration, or cure of cancerous diseases; (3) the institution of prizes for original essays or investigations, (4) the delivery of lectures by the most eminent scientists procurable; (5) the foundation of a special laboratory for cancer research; (6) the utilization of special hospitals for teaching purposes; (7) the promotion of Parliamentary enquiry into the causes of the mortality, and of any subsequent legislation thereby indicated; (8) the collection and publication of reliable statistics, with any further useful information; (9) the possible establishment of a cancer home for persons of limited means.

A. C.



ART VIII.—ANTHROPOMETRICAL AND PSYCHO-  
PHYSICAL STUDY,  
WITH AN  
INVESTIGATION OF THE WASHINGTON SCHOOL CHILDREN.  
by

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**I**N early times measurements of the body were made in the service of art. It is only in comparatively recent times that anthropometry has taken a scientific direction. The artist was interested almost wholly in the form and proportion of the human body, and so measured those only who were well-formed. The empirical investigator is interested in the measurements of all persons. The founder of this latter branch of study is the Belgian statistician, Quetelet. His purpose was to find what is typical in man, at the same time making note of the variations due to sex, age, race, and social position.

PRACTICAL NATURE OF ANTHROPOMETRY.

One of the practical aims of measurements of living men is to identify personality. It is to give to each individual a positive, permanent and invariable personality." Thus, when a life-insurance policy or a certificate of death is to be drawn up, or, when it is desired to identify some insane person or some one disfigured by sudden or violent death, by shipwreck or combat, it would be serviceable had those persons had their measurements recorded; so that some could be identified with certainty. Banks and associations for mutual benefit could not be so easily swindled by the assertion of the death of a policy holder; impersonation of a pensioner, or of an heir, would be difficult, and "those who died in battle would not have a nameless grave."

This is an extension of the idea of the Bertillon system of measurements for criminals—a system which aids in lessening crime. Crime is encouraged from the difficulty of distinguishing one person from another, so that habitual and professional criminals escape punishment.

This system, although intended primarily for a practical end, can be made of scientific value as far as is goes. Experience has shown that absolute certainty of identity is possible by the Bertillon system. But the full benefits of a practical system of identification can not be reached unless

applied to all individuals. There might be at first sentimental objections, as has happened in things which subsequently proved to be of great utility to society. No one who intended to be an honourable citizen would have anything to fear ; but, on the contrary, it would afford protection to humanity in enabling society to find its enemies. This certainty of identification would discourage dishonest voting, assist in recognizing deserters from the Army, in enforcing laws, and in facilitating many business matters.

In the investigation of normal modern civilized man, the most important branch is probably the study of children. The importance of taking physical measurements of children in school lies in the fact that such measurements may be considered as a test for systems of physical culture. As pupils are examined periodically to test their mental growth and improvement, it is just as necessary for their welfare that their physical condition and development be ascertained, so that progress may be gained in body as well as in mind. But there must be some standard by which we can measure physical development and growth. This can be ascertained only by taking measurements of a large number of children of all school ages. Although the physical conditions upon which the activity of mind depends are so complex, and so much is still unknown, yet it can be said with almost certainty that, at those ages in which children grow rapidly, there should be a corresponding reduction in the amount of study required, and this should be done even if the pupil is mentally capable of doing more, for no pupil should be developed in mind to the detriment of bodily conditions. The bright scholar, whom parents are too often inclined to push, needs it the least, especially if his physical condition is inferior to his mental. The saying that apples which ripen slowest last the longest, is as true as it is homely. The systematic collection, then, of physical statistics in the public schools will furnish valuable facts for the hygienist and the educator.

#### NORMAL MAN SHOULD BE STUDIED.

Students of anthropology have confined their attention largely to uncivilized and prehistoric man, and consequently there is very little knowledge of modern civilized man, as compared with his less worthy predecessors or contemporaries. We know more about rocks and brutes than about modern man. We have made sciences of the two former, but a science of the latter hardly exists. The men who have begun lately to study modern man have given the abnormal types, such as criminals, the insane, inebriates, paupers, etc., the advantage of their investigations. It is time that similar



investigations should be made upon average normal men, who are the foundation of every community.

Also men of great talent or genius, should be studied ; for, if it is important to study the criminal in order to find the causes of crime, and thereby prevent or lessen it, it is, perhaps, more needful to investigate the man of talent or genius, in order to ascertain the conditions and characteristics that lead to success in life.\*

#### OBJECTIONS TO PSYCHO-PHYSICAL METHODS.

Objections are frequently made to the present psycho-physical methods of studying man. It is said that too much importance is attached to the physical side of man, as though the soul and mind could be measured by an instrument of precision. It is not intended here to enter upon a special discussion of this subject, about which there may be difference of opinion. The measurements made are measurements of the body, or of physical effects in the body arising from either physical or mental causes, or from both causes.

When, for instance, an instrument to measure pain, as a temporal algometer,† is pressed against the temple with gradually increasing force, and the subject tells as soon as the increasing pressure becomes in the least disagreeable—we will say that when the pressure reaches 2,000 grams it begins to feel disagreeable—the question arises as to what this 2,000 grams pressure measures. It is not true to say that this is wholly a physical measurement, much less to say that it is wholly a mental or emotional measurement. It seems to be simply an approximate measurement of the combination of these three elements. In the present state of knowledge it would be hazardous to say which element enters most into the measurement.

The impression is sometimes formed from reading descriptions of instruments and details of long series of experiments, that psycho-physical study ignores introspection ; but this is a misconception.

It is natural that most investigation on comparatively new lines should take up the more elementary phenomena. Introspectional states of consciousness are, perhaps, the most complex, and it would have been premature to enter into their consideration before the simpler states had been thoroughly studied. There should be extensive investigation of introspection ; it should be considered experimentally under definite conditions, etc. Speaking of the common error which makes experimental psychology a mere study of sensation and reaction time, Münsterberg says :—

\* See article on "Emile Zola" (by author) Open Court, August 1898.

† Description in Report of U. S. Commissioner of Education for 1897-98, page 1155.

## TRUTH FOR ITS OWN SAKE.

Notwithstanding the practical utility of anthropometry, which we have stated above, objection is sometimes made that it, as well as other phases of scientific investigation, cannot always be of immediate use.

The question is often asked as to the utility of experiments of this nature. The commercial or utilitarian spirit does not yield the best results, though it sometimes brings quick and paying returns. But in all experimental work much is done that subsequently is seen to have been unnecessary. This is mainly because the real significance of any initial truth can not be known until the discovery of other truths has been made. The purely practical point of view sometimes assumes that we ought to know beforehand what an experiment is going to prove, as though the investigation were but an interesting pastime, for, of course, there would then be no necessity for the experiment.

In an empirical investigation new lines of study require much more detail. As a rule, it is better to have too many data than too few; for to assume in a preliminary inquiry what material is important and what not important is premature. To exclude material on theoretical grounds at the outset is to allow presuppositions undue influence. A laboratory inquiry may be continued a year or more, and often the result of all the labour may be stated in one page or one sentence; or there may be only a negative conclusion, but this is no reason that an investigation should not be undertaken. Negative results may be useful for future study in indicating what methods or material to avoid.

Certain objections are sometimes made to new and necessarily incomplete lines of work. The type of objections referred to would hardly be made by investigators. Thus, it is sometimes said that unrelated facts, like a pile of bricks, do not make a house; but the answer is, you cannot build a house or form a science without these separate facts; they are the material itself. It may be asked what is the use of knowing, for instance, that one group of children are more sensitive to heat than another group. We think there is some use, but we will waive that. The point of view suggested by these and similar objections overlooks the fact that such objections would have applied to all sciences in their early stages. If, for instance, individual facts about children, even if their immediate use is unknown, are not important, what is important in life? Many such objections would involve a discussion of points of view of life which it would be out of place to consider now. But it may be said, in general, that the primary object of science has always been *truth for its own sake*, and



under the inspiration of this ideal many discoveries of the greatest utility to humanity have been made.

#### METHODS OF INVESTIGATION.

To establish the measure of work according to the strength of the individual is fundamental to the economy of health. This is especially true of children, but the difficulties here are greater than in the case of adults, owing to the changes caused by growth. Overtaxing of the powers here leaves its mark generally throughout the whole future life of the child. No question, then, can be more important for the school, according to Combe, than :—

(a) What is the maximum work suitable to a child in the different periods of development in its school life?

(b) Can this maximum be injurious at certain times, when all the vital force may be required for growth?

We must first know the physiology of normal growth, whether it is regular and when it increase or decreases in rate, and what influences these increases and decreases. There are two methods of pursuing such an investigation—the collective method and the individual method.

The collective method consists in measuring large numbers of children of every age, and obtaining the average or mean for each age, the value of which is in proportion to the number measured. Quetelet, of Brussels was one of the first to use this method ; but he only measured ten of each sex, which is too small a number to give any certainty to the results. Of much more importance are, for instance, Dr. Bowdich's measurements of 24,000 Boston school children. This method was employed by Alex. Hertel in Denmark, who measured 28,384 children in the different public schools. Axel Key in Sweden measured 15,000, most of whom were in the high schools ; Erismann gives results from 3,000 children in Moscow, Pagliani for 2,016 in Turin. Kotelmann in Hamburg made very careful and extensive measurements, but on a limited number.

The individual method was employed by Liharzik in Vienna, who investigated 200 from 8 to 14 years of age, measuring them each year.

The results of both methods are not always exact. Most authors have, for example, considered children as being 9 years of age who were anywhere between the ages of 9 and 10. Others have more correctly recorded them at their *nearest age*. The result is that the averages of different authors are not for exactly the same years of age. Louis Roux, of Switzerland, employed a new and much more exact method, which consisted in following the month of birth,

instead of the year, so that there were twelve groups. Thus, it was found that children born in summer were larger than those born in winter, a fact that may prove to be of some significance.

#### WHAT IS A NORMALLY DEVELOPED CHILD?

This question might be answered, but only within certain limits, owing to the variation and the complexity of the human species. A method of inquiry would be to seek out the positively abnormal children and find what characteristics are peculiar to them. The remaining children in a general way might be called normal.

At present the desire is to find the norm, the average, the type or types of the great mass of children. This can be done only by measurements on large numbers, these measurements to be summarised according to the statistical method.

It is a common saying that "almost anything" can be proved by statistics. This may be true with their wrong interpretation. Yet without statistics there is little or no basis for opinion or conclusion. Every additional observation through counting, measuring, or weighing; every repetition of an experiment, when applied to large numbers, lessens the amount of error, giving a closer approximation to truth, against which preconceived ideas or theories have little weight.

According to Hasse, one of the aims of anthropometry is to find the normal relation between mental and physical development. The close relation of anthropometrical measurements of school children to hygiene will be evident when it is asked within what general limits shall growth, in height, weight, strength, etc., be considered as representing a healthy normal child. In our present state of knowledge it would be hazardous to define a normally developed child.

#### ANTHROPOMETRY AND ABNORMALITIES.

There is, doubtless, in the early periods of life, up to adult age, a certain relation of bodily organs to one another. A want of such relation may produce abnormalities, which in turn may give a lack of grace, symmetry, or beauty to the human body. If such a relation is to be generally established, that we may know within certain limits what can be considered the proper bodily proportions; measurements in large numbers of children at different ages and stages of growth must be made. Hence the only way to a definite knowledge as to the development of the human body will be through long and painstaking investigations. Thus the causes of homeliness, lack of beauty, deformities, and the like may be more definitely ascertained. This in turn may help in their prevention. Such



abnormalities affect not only beauty, but, what is more important, health. When abnormalities are discovered early in youth there is more opportunity of avoiding their evil effects. The relation of these body abnormalities to disease may prove of practical importance. Thus Hildebrand, an experienced investigator, remarks that delicate, slender people are much more subject to typhoid fever than to consumption; another says of the same class that they are much more inclined to nervous troubles than other people. Another physician of large experience asserts that, where chest and trunk remain undeveloped, the head and extremities are much more developed.

Beneke in Marburg has shown that the relation between the size of the heart and the circumference of the arteries is gradually changed during the growth of the body, and that there is a consequent variation in blood pressure. This is specially true at puberty, when the heart increases very fast in volume; for the arteries increase much in length with the increase of length of body, but their diameter is relatively little increased, so that much more work is required of the heart. Thus the growth in the length of body can be of the greatest importance to the development of the heart. Should this growth be irregular or abnormally fast, serious difficulties may arise, and Beneke has endeavoured to show that herein lies the cause of the development of consumption at puberty. The importance, therefore, of determining the normal rate of growth is evident.

We have mentioned these general opinions of experienced physicians and specialists as an indication of the utility of the anthropometry of the future.

#### SCHOOL CRITERION OF ABILITY.

It is often said that school tests of ability are little guarantee of the superiority of a pupil in subsequent life. One reason for this belief is that too much is expected of school tests. A particularly bright pupil who does not succeed in after life is, by force of contrast, remembered longer than those bright ones who are expected to succeed and do.

We think it will be found that the majority of those who do well in school do well in after life; for quickness of insight combined with faithfulness and regularity in work are the main characteristics which contribute to success in school. These are also the characteristics which make life a success. It must be remembered that now and then there is a brilliant pupil who is only prematurely so; such brightness may have a pathological cause, and is not a favorable sign. Such pupils, who mature early, may after a certain age be no more than average or even below average. Then there are certain original or peculiar characters with great talents in one direction who will

surely succeed in life, but who can not adapt themselves very well to the conditions of school, and hence have a poor school standing. But the success of exceptional personalities is usually in spite of early disadvantages. Early success unfortunately often causes one to feel less the need of educational advantages. The schools are not intended for the genius, but are planned for the great majority, who are the foundation of society.

#### OBJECTIONS TO ESTIMATING ABILITY.

It may be objected, that there is no standard of ability in studies. There is not, and it is improbable that there ever will be, any absolute standard of ability. But this does not in the least hinder us from saying, and saying truthfully, that one pupil is bright and another dull.

We do not agree with those who may think that teachers are not capable of judging of their pupils. While some may make mistakes, it is wholly improbable that those who do will all make mistakes the same way. Some may estimate ability too high and some too low, so that most of such errors will balance each other. It is very improbable that a hundred teachers, in judging of thousand pupils (say one teacher judges as to ten pupils), will all estimate them too high or too low. When the numbers are larger, the improbability of errors sufficient to be of consequence is very great.

It may seem to some unnecessary to mention the following objections; but, as they might be made, the writer has endeavored to anticipate them. It may be objected that there is no standard of mental ability. This is a fact; but the objection is weak, for a large number of investigations would be necessary to make a standard, and of course some of these measurements be made before there could be any standard. But the objector may mean that there are no accurate measurements or exact divisions of children into bright, dull, and average, and that such terms are too indefinite for statistical purposes. It might be said that many valuable statistics are only approximately true. But, admitting the objections for the sake of argument, and saying that judgments as to brightness, dulness, etc., are mere matters of opinion, it may be said that the results are statistics of opinions of teachers. Then the real question is, What is the probable truth of the opinions of the teachers? The opinions of 100 teachers on 1,000 pupils and of 500 teachers on 20,000 pupils, as in the case of the Washington children, must be held as approximately true when there is any general agreement as to any division of the pupils, for so many different teachers could not make errors all the same way.



## WASHINGTON SCHOOL CHILDREN.\*

Washington is a residential city with comparatively few foreigners. The well-to-do and poorer classes among the whites are more equally divided than in most cities. There is a very general representation from all States among the residents. For these reasons a study and measurement of the school children of Washington may be capable of more general application to Americans as a whole.

## METHOD OF INQUIRY.

In the study of the children two methods of investigation have been followed, one is an anthropometrical and sociological study of all (21,930) the school children, based upon measurements by the teachers. This includes also a purely psychological inquiry as to comparative mental ability in the different school studies as reported by the teachers, and a study of the abnormal children in the schools as reported by the teachers.

The other is a special study of 1,074 children, which considers cephalic index and sensibility to heat and locality upon the skin, with relation to sex, mental ability, and sociological condition. It is based upon measurements by the writer.

The teachers were asked not only to mark each pupil bright, dull, or average, in general, but to specify the studies in which such pupil was bright, dull, or average. In this way a more complete judgment of the pupil's ability was obtained. Thus, some children generally bright are, nevertheless, dull or average in certain studies.

In reporting the pupils as bright, dull, or average, the teachers were told to mark them average whenever in doubt. In this way there was less liability to error in regard to the bright and dull, which are the classes we desired most to compare. The teachers reported upon those pupils whom they knew best. The pupils were marked after the measurements were made.

## RESULTS OF INVESTIGATION.

It is a general principle in new lines of inquiry to regard the results as more or less *tentative* according to the number of experiments made. In this work the results depend upon averages, which are valuable according to the whole numbers from which the averages are made. The conclusions, therefore, will be more trustworthy the larger the numbers measured. In many instances those numbers are not as large as one would desire; but it is hoped this will induce some investigator to make experiments upon larger numbers.

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\* For detailed study on Washington children see coming Report of the U. S. Commissioner of Education, pages 989—1094.

## CONCLUSIONS AS TO ALL THE SCHOOL CHILDREN.

1. As circumference of head increases mental ability increases.†
2. Children of the non-labouring classes‡ have a larger circumference of head than children of the labouring classes.
3. The head circumference of boys is larger than that of girls, but in coloured children the girls slightly excel the boys in circumference of head.
4. Coloured girls have larger circumference of head at all ages than white girls.
5. An important fact already discovered by others is that for a certain period of time before and after puberty girls are taller and heavier than boys, but at no other time.
6. White children not only have a greater standing height than coloured children, but their sitting height is still greater; yet coloured children have a greater weight than white children—that is, white children, relatively to their height, are longer bodied than coloured children.
7. Bright boys are in general taller and heavier than dull boys. This confirms the results of Porter.
8. While the bright coloured boys excel the dull coloured boys in height, the dull excel the bright in sitting height. This seems to indicate a relation or concomitancy of dulness and long-bodiedness for coloured boys.
9. The pubertal period of superiority of girls in height, sitting height, and weight is nearly a year longer in the labouring classes than in the non-labouring classes.
10. Children of the non-labouring classes have, in general, greater height, sitting height, and weight, than children of the labouring classes. This confirms the results of investigations by Roberts, Baxter, and Bowditch.
11. Girls are superior to boys in their studies (but see conclusion 19).
12. Children of the non-labouring classes show greater ability in their studies than children of the labouring classes. This confirms the results of others.
13. Mixture of nationality seems to be unfavourable to the development of mental ability.
14. Girls show higher percentages of average ability in their studies than boys, and therefore less variability. This is interpreted by some to be a defect from an evolutionary point of view, but see conclusion 16.
15. As age increases, brightness decreases in most studies, but dulness increases except in drawing, manual labor, and penmanship; that is, in the more mechanical studies.

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† "Non-labouring classes" refers to children, whose parents are engaged in mercantile and professional occupations.

‡ It being understood that the race is the same.



16. In coloured children brightness increases with age, the reverse of what is true in white children.

CONCLUSIONS AS TO CHILDREN WITH ABNORMALITIES.

17. Boys of the non-labouring classes show a much higher percentage of sickness than boys of the labouring classes.

18. Defects of speech are much more frequent in boys than in girls.

19. Boys show a much greater percentage of unruliness and laziness than girls.

20. The dull boys have the highest per cent of unruliness.

21. Abnormalities in children are most frequent at dentition and puberty.

27. Children with abnormalities are inferior in height, sitting height, weight, and circumference of head to children in general.

A SPECIAL STUDY OF 1,074 SCHOOL CHILDREN, CONSIDERING CEPHALIC INDEX AND SENSIBILITY TO HEAT, AND LOCALITY ON THE SKIN, WITH RELATION TO MENTAL ABILITY, SOCIOLOGICAL CONDITION, SEX, AND PUBERTY.

All the measurements of this part of the investigation were made by the writer. There were in all more than 1,000 pupils specially studied, 526 boys and 548 girls.

The representative or typical schools were visited, and a room was set apart for making the measurements. It required about twenty minutes to measure each pupil. There were generally four pupils in the room, so that each one saw three measured before his or her turn came. The endeavour was to make all the conditions, as far as possible, similar for each pupil. Experiments were made upon the right hand or wrist, then upon the left hand or wrist.

The pupils were selected according as it was convenient to send them in, so as to interfere as little as possible with their regular school duties.

SPECIAL MEASUREMENTS.

*Head.*

The two most common measurements of the head (maximum length and maximum width) were taken, and the cephalic index obtained, dividing the children into long heads (dolicocephaly,) medium (mesocephaly) and broad (heads brachycephaly).

LEAST SENSIBILITY TO HEAT.

The least sensibility to heat was determined by the thermæsthesiometer of Eulenburg.

This is an instrument consisting of two thermometers fastened together. The left-hand thermometer was heated until it

registered about  $10^{\circ}$  higher temperature than the right-hand thermometer ; then the two thermometers were placed on the palmar surface of the wrist the subject was asked which was the warmer, and on replying correctly the thermometers were held on the skin until the subject could not tell which was the warmer ; at this instant the difference in degrees between the thermometers was read. This difference must be regarded only as a *relative* indication of the least sensibility to heat. Distinguishing small differences of temperature indicates acuteness of sensibility to heat ; or, on the other hand, the greater the difference of temperature required to be perceived by the subject, the greater the obtuseness to heat. Thus if C can not tell the difference between the two thermometers after their difference is less than  $3^{\circ}$  and D after it is less than  $2^{\circ}$ , D, is more acute to heat by  $1^{\circ}$  degree than C.

#### STRENGTH OF HAND GRASP.

The strength of hand grasp is measured by the dynamometer. This instrument is squeezed in the hand while the arm is held out horizontally from the side of the body. The strength of the right hand was generally taken first. The dynamometer is to some extent a sociological instrument, in distinguishing those who do manual labour from those who do not by the greater strength of hand in the former.

#### SENSIBILITY TO LOCALITY ON THE PALMAR SURFACE OF THE WRIST.

The capacity of distinguishing points on the body by the sense of touch is called the sense of locality. The palmar surface of the wrist was the part of the body chosen, owing to its convenience for making the experiment. The sense of locality on the skin varies in acuteness according to the mobility of the part, increasing in the extremities toward the fingers and toes.

The instrument used in determining the last sensibility to locality is the æsthesiometer which resembles a small pair of dividers.

The two points were drawn 15 millimetres apart. The pupil closed his eyes, and the two points were made to touch simultaneously the skin on the palmar surface of the wrist. He was asked if he felt one or two points. In case he felt only one point, the instrument was raised and the points were moved further apart. If he felt the two points, they were moved closer together. As soon as he became uncertain in either case, as to whether there were one or two points touching the skin, the distance between the points was read as recorded by the scale. It takes more acuteness to distinguish two points on the skin the closer the points are together. The distance of the



two points from each other when the pupil is in doubt, is taken as a measure of his sense of locality. The less the distance, the more acute is his sense, and the greater the distance, the more obtuse his sense to locality.

23. Dolichocephaly, or long-headedness, increases in children as ability decreases. A high percentage of dolichocephaly seems to be a concomitant of mental dullness.

24. Children are more sensitive to locality and heat on the skin before puberty than after.

25. Boys are less sensitive to locality and more sensitive to heat than girls.

26. Children of the nonlabouring classes are more sensitive to locality and heat than children of the labouring classes.

27. Coloured children are much more sensitive to heat than white children. This probably means that their power of discrimination is much better, and not that they suffer more from heat.

## ART. IX.—A PILGRIM VOYAGE IN THE 19TH CENTURY.

(By the late JAMES GORDON, M.A., M.B., New College, Oxford.)

WE had been at sea for three weeks. The cargo-steamer to which I was attached as doctor had accomplished in safety the thousands of miles which separate Bombay from Singapore. After the long voyage we were thankful when the hawsers were made fast to the drums of the steam winches and slowly the S. S. "Arabia" came alongside the company's wharf at that port.

A pallid Agent stood on the wharf with letters and 'ship's papers' in his hand. He was dressed in white and wore on his head a monster mushroom hat called a topee. I looked at him critically, for he was the first European outside the ship's company whom I had seen for three weeks. His face was waxen owing to long residence in a tropical climate, and he appeared to be in ill-health.

As the big ship came closer to the wharf, he raised his hands to his mouth and shouted through the funnel of this fingers to the captain on the bridge: "Your vessel is under charter to proceed at once to Jeddah with pilgrims."

It was enough! The captain stamped his foot and swore aloud. In an instant the news spread from mouth to mouth through the ship. The Asiatic portion of the crew seemed pleased with the prospect of the voyage. The Europeans stood in groups on the deck and cursed the day they went to sea.

In her time the "Arabia" had been a first class mail ship, and visited Australia in that capacity. After twenty years of service her glory had been taken from her, and her cabins, saloons and accommodation for passengers swept away. Degraded to the rank of a cargo-steamer, if you saw the ship out at sea you would call her a "tank." Though dismantled of luxurious fittings and deprived of square ports, the Arabia was substantially built and carried masts with a stylish "rake." In her ample holds she was registered to carry three thousand tons of cargo, at the economic rate of eight knots an hour.

The Agent was the first to climb the gang-way,—we crowded round him forgetting for the moment our trouble in the desire to receive letters from home. The captain, taking him aside, said with indignation:

"Do you mean to say that our Company have chartered this ship in the Hadji trade?"

The Agent answered apologetically. I could see he was really sorry for us.



"Yes," he replied, "here is the cablegram from London ! I don't envy you, captain ; but it will soon be over. I believe the pilgrims are cleaner than a crowd of English soldiers. We have orders to fit out the ship with every convenience."

What the captain said does not matter and is better left unpublished. What he did not say, we said for him.

It was explained that the vessel had been chartered by the richest Mahomedan merchant in Singapore—one Azigoff by name. For the sum of Rs. 20,000 the ship was placed at his disposal for the term of six weeks. Having discharged cargo, the captain was ordered to await the orders of the Pilgrim Merchant.

The Agent sat down with us to lunch at the invitation of the captain in the little deck cabin set apart for our meals. The repast must have been a grievous trial to him. From the highest to the lowest, we all grumbled incessantly and continuously. The Agent heard and, listening, was edified ; he was our guest at table.

In the afternoon Azigoff in person came on board. All hands awaited his arrival with curiosity. Money had made him our master, and we were his servants.

He inspected the ship with a critical eye. He was a fat, podgy black man with black eyes which shone with the lustre of glass beads. A retinue of servants followed him, and a black boy fanned him, if he paused. His dress was white, and he wore socks and boots, above which a fat, hairy leg was displayed beneath his "sarree." For a long time he staid in the captain's cabin, and discussed the necessary arrangements of the profitable speculation.

"Your ship, captain Sahib," he said in faltering English, "have got one big belly. I put down rice and wood and make much money."

"You can put what you like into her," said the captain, who then broke off into a conversation in Hindoostani, which made the wicked eyes of the old merchant sparkle.

Our friends on shore offered no sympathy in our trouble. We were told that we ought to make our fortunes on the trip. The cabins might be let to the pilgrims at a high figure, which would well repay the privations of the voyage. Daily we discussed at table the reserve prices of our cabins. With the captain's consent we agreed to let out the dining saloon, and live "al fresco" on the forecastle. Notices printed in many oriental languages were posted to this effect in the offices of our charterer. One of the officers went so far as to advertise in a native paper the price of his cabin.

The officers, giddy with dreams of wealth, went nightly

ashore and spent money recklessly. We drank champagne at a fabulous price, and appropriated the billiard tables of the hotels for the evening. At the Tingle Tangle (Music Hall) we played havoc with the fair German musicians, and denuded the orchestra of its talent by asking the female performers to dance with us. In short, we enjoyed ourselves on the prospect of unknown gold.

Day followed day, and the tropical sun shone clearer. Satiated, with dissipation, and empty in pocket, we paused in our wild career. No offers came for the cabins, and our spirits fell with our dollars. It was clear that the passengers could not afford to avail themselves of the accommodation of our cabins even at reduced prices. Rumours were afloat concerning the substantial remuneration given by the Mahomedan merchant to the captain, chief-officer and engineer. I was strongly advised to visit the office and lay my claims before the charterer; for, as doctor to a crowded ship, I might reasonably expect compensation. I rejoice to think I never went.

The day of sailing drew near. The cargo from Bombay had been discharged, and the ship floated empty as a poor-box. Rats roved the holds half starved, and came on deck in search of food. Chinese carpenters came on board to make alterations necessary for the voyage. In my department a hospital, fifteen feet square, was constructed on the quarter deck. It was a quaint edifice made of waste wood work and old doors. Inside, a partitioned shelf was hastily patched up:—the shelf looked like a flattened manger, but ostensibly it was designed for the accommodation of patients. In the centre of the hospital vast stores of useless and antiquated medicines prescribed by Government Schedule were deposited. The forethought of the agent appended to the list of drugs three barrels of chlorinated lime, which in my belief were the most useful possession on voyage.

In the department of the Engineer there was great activity. A huge supply of coal was taken on board, sufficient to serve the ship for six weeks at the average rate of consumption. Fore'ard and aft the parts of the lower orlop decks adjacent to the coal-bunkers were stored with coal. A condenser capable of giving 2000 gallons of fresh water per diem was fitted to the steam gear of the ship. On the port side of the fiddies which protect the engine room from heavy seas, iron furnaces were erected for the convenience of the pilgrims on voyage. The deck was sheathed with iron plates, upon which the fire-places rested. Many a pot of rice boiled and many a fish have I seen braized at those fires. The Hadji puts a stick into the mouth of the fish and holding it over the fire toasts it as we in England toast a slice of bread.



The cargo was a matter of speculation on the part of Azigoff. I have a shrewd suspicion that there were others on board interested. At the time of our departure rice was cheap in Singapore, and the merchant charterer consigned many hundred tons to Jeddah. Countless tons of rice in bags were lowered into the hold, and again the rats of the "Arabia" had food to masticate.

A week before the date fixed for sailing, the pilgrims began to arrive. From day to day their numbers increased, and four days before the departure of the ship the wharf was crowded from end to end. Who they were and whence they came, I do not pretend to say. All were dark and spoke a multitude of unknown tongues. We were told that they were devout Moslems from the provinces of the Malay Peninsula; some I know came from Java and Malacca. Among them was a fair-skinned man who might easily have passed for a European. He disappeared mysteriously at Penang and did not continue the journey. The majority of the pilgrims were men in good health. But among them were women and children. Here and there one saw old, infirm persons who obviously had undertaken a journey which would be ended in the next world, they could not hope to survive the privations of the voyage. Thin and half-starved, and squatting on their luggage, they chewed sugar-cane and watched the big ship moored against the wharf.

A Government official came on board and inspected the ship. The surface space of the three decks was measured by an officer, who carried out the work with much levity. By an erratic calculation he demonstrated that the ship contained a large total of superficial feet. Seated in the Captain's cabin, the official divided the grand total by nine, which gave, by a stroke of the pen, the number of pilgrims permitted by statute to travel on the five weeks voyage to Jeddah. A document was signed setting forth to all men that the ship was capable of a burden of 1,200 pilgrims.

In my department, the officer of State expressed his admiration of the Hospital, which would have been washed overboard by a heavy sea. Taking in his hand a large bundle of chiretta, he expressed his approval of the large store of drugs prescribed by Government Schedule, and commented upon the liberality of our owner. Having drunk with us, all the officials of State departed.

The lower decks of the Arabia were suitable for rats and cockroaches, which in themselves constituted a cargo for the ship. The main-deck, ill-ventilated and unlighted, looked like the gallery of a quarry. The port-holes had long been done away with, and stray rays of light struggled to penetrate the thick circular glass panes in the iron plates. The lower deck

did not even possess the advantage of light and was completely below the water line. The vessel was a cargo ship, and ventilation of the holds had not been considered.

On the day of departure the blue Peter was run up at the fore, and the big chimney-stack of the vessel sent forth columns of thick smoke which, descending upon the waters of the harbour, flattened out into opaque wreaths. The bubble of boiling water thrilled the ship and a spray of steam burred from the escape-pipe beside the funnel. The cranes cranked in their efforts to ship more cargo. On board all was bustle and stir; lascars, serangs, quartermasters and officers rushed this way and that; Azigoff in person paraded the quarter-deck and gave orders to his agents; the fat Mahomedan surveyed the crowd of pilgrims on the wharf with the pride of a prince.

A double watch of quartermasters was ordered on duty during the night to prevent the pilgrims from boarding the ship before the appointed time. The gangways had been taken aboard over-night, and the straight side of the ship faced the crowd on the wharf like a wall.

As the hour fixed for embarkation approached, the excitement of the pilgrims became a madness. During the night the uproar on the wharf prevented our sleep. Towards morning the tumult was overpowering. Looking down from the taff-rail, we saw the long wharf crowded with natives struggling, shouting and hustling one another. From end to end the wharf was packed with our passengers and their luggage.

At 10 A.M. the deep-toned whistle of the steamer blew the signal for the pilgrims to board. Fore and aft heavy gangways were shot out from the ship and slowly lowered on to the heads of the crowd. From the bridge it looked as if some of the pilgrims must have been crushed beneath the weight. But those who should have been crushed by the gangway seized the staircase, and, climbing up the hand-rail with the agility of monkeys, rushed aboard. The crowd swayed to and fro, and, in the general rush, several of the pilgrims were carried over the edge into the sea. Those who had boarded the ship let down ropes by which whole families climbed;—the very rivets of the iron plates seemed to afford foothold.

Like flies on a cake, the pilgrims swarmed aboard. The "Arabia" heaved over with the weight of humanity scaling her side grating, with a creak against the stays of the wharf.

On the deck the scene was one of indescribable confusion. Within a few minutes of the lowering of the gang-way all the upper deck spaces beneath the awnings were occupied by pilgrims sitting on packs. With the greatest difficulty we thrust them back from the wooden barrier which had been placed across the space in front of our cabin on the starboard



side. Finding the deck already occupied, many descended to the holds. The narrow stairway leading downwards was traversed by natives three abreast, all clinging to one another. Men climbed over the combings of the hatch and descended by the stanchions. The women, children and baggage followed down a rope which hung over the edge of the combings. Some did not deign to use the staircase or the rope, but, throwing down first their packs, dropped quickly from the stanchions. Within an hour the ship was full and several hundred tons of personal belongings had been stowed away. The Government Inspector came on board and made a show of counting the numbers. The task was impossible, the pilgrims passed from one hatch to the other and reached the deck by four hatchways. It would have been as easy to count the numbers of ants in an ant heap.

Nevertheless the official signed the requisite papers. The anchor-chain was wound up on the windlass. The hawsers were cast off from the bits on the wharf, and once again the "Arabia," with her Plimsoll line well beneath the wash, stood out to sea.

The Hadjis, leaning over the taff-rail and clinging to the stanchions, waved a long farewell to their friends on the wharf, and Azigoff our charterer, surrounded by his servants and agents, watched the ship till she was a speck on the horizon.

## II.—ON VOYAGE.

As the blue, pine-apple covered hills of Singapore faded in the distance, the evil effects of over-crowding began to manifest themselves. Half-clad natives came up from the holds weltering in perspiration, and leant over the rail of the ship to get a breath of air. The air about the hatch-ways was thick and offensive. The five furnaces on the port side of the ship were lighted to enable the Hadjis to cook their food and the smoke of the fires blew back into the vessel. Children sat blubbering on the bare deck beside their mothers. Stifled with their exhalations, our passengers coughed and looked fondly at the emerald islands which dot the Straits of Malacca.

The Captain had caused a barrier to be erected in front of the officers' cabins on the starboard side. Heavy planks were fixed from the ends of the deck-house, and in this way a space ten yards long was reserved for our use. Here in the afternoon we took exercise from barrier to barrier, like wild beasts in a cage. Excepting the engine room, bridge and forecastle, this was the only unoccupied space in the ship.

It was soon found necessary to establish better means of communication between the deck-house and the bridge. The alley-ways were so crowded with pilgrims that the officers were

hindered in the work of navigating the vessel. An over-head way was made by the carpenter out of the planks belonging to our charterer, and it proved to be a great convenience. Climbing a ladder to the top of the deck-house, he could walk forward along the planks and reach the bridge by the way of the fiddies of the engine room. From the bridge a single plank led forward to the forecastle along the stanchion chains to which the ties of the awnings were attached,

The question of letting deck spaces caused much unpleasantness among the Europeans. The Chief Officer, maintaining that such spaces were set apart for the interests of the ship, ex-officio claimed all rights of administration. An Engineer of low rating sold the small deck space on the roof of his cabin for a few dollars. The "Chief," by his rights, claimed half the sum paid for the transaction. The butcher likewise did the best for himself. The sheep-pens in the well deck were unoccupied by sheep; accordingly he let the top of the pens to one family of Hadjis and the interior to another. The family of pilgrims squatting in the pen and gazing through the bars looked very quaint.

But the transaction of the butcher did not go unchallenged. The chief-steward, by the rights of a superior officer, claimed a share of the money, and, what is more, he got it. The chief officer, however, stepped in with a counter-claim, and showed much indignation. I do not know whether he obtained a share of the spoil, but I think he did not, for the butcher and chief steward held the strings of their purses with a grasp that would have choked the throat of any adversary. Our Captain rightly refused to allow the ample roof of the deck house in which the officers lived to be let to the pilgrims, who would willingly have paid for the space. But beyond this stipulation, he did not in any way interfere with the schemes of the chief officer, who was bent on making money.

By a wise regulation of the Board of Trade, two additional boats had been added to the life-saving appliances of the ship. Nevertheless the equipment of the ship in case of disaster was wholly inadequate. The number of boats would scarcely have sufficed to convey the crew alone.

The pilgrims took a special fancy to the boats which afforded an excellent resting place for the night. The dangers of crawling along the davits and secreting themselves beneath the tarpaulins appeared to increase the fascination. It became necessary, after a day's voyage, to search the boats every hour of the night, and hour by hour pilgrims were hounded out of them.

One evening I went ast to the Hospital, where there lay a man with a fractured skull; on leaving the Hospital I looked



up at the roof. There, craning their heads over the edge of the roof, like young birds looking out of a nest, were pilgrims, and many of them. I ordered them to come down ; but naturally my request was met with a blank refusal, for the occupants of the Hospital roof had paid rental for their perch.

On the first night after leaving Singapore I made a tour of the ship. I could not sleep, the coughs of the pilgrims and the wild cries of the Hadjis chanting the Koran making sleep impossible. The weather was rough, at every lurch of the ship there was a soft sound of sleepers rolling on the deck ; and for a moment the dreary Gregorian of the reciter ceased. The heat was frightfully oppressive and the narrow quarters of my cabin doubly stifling owing to the multitude on board. I opened the saloon door and stepped out on the port side of the ship. A skirting of cast iron covering the steam-pipes leading to the aft-winch afforded a convenient step to the door of the small saloon. On my opening the narrow door, two sitting sleepers fell back upon the brass-bound step of the saloon-entrance. They were sleeping Hadjis, dreaming perhaps of Mecca and Heaven. By the flicker of a dim lantern swinging from lashings on the boom supporting the awnings, I could see the prostrate forms of pilgrims sleeping in picturesque attitudes. Their legs deviated obliquely from the narrow path which led fore and aft the ship. A lurch of the ship caused me to stagger on the path leading to the Hospital, and, in saving myself, my booted foot came in contact with something soft and yielding. Looking down, I saw a sleeping pilgrim coiled upon himself and grasping in his hand a book—the Koran. The Hadji merely changed his position and slept on.

I went to the bridge, where the officer on watch walked slowly from side to side of the great ship. He was inclined to be cheery, and, illuminating my person with the flare of his pipe, would have entered into conversation. I leant over the rail. The moon was setting over the heaving waters. The ship, defying the swell, stood on her way, rolling heavily.

### III. PENANG.

In Singapore it was announced that the Hadji-ship would proceed direct to the quarantine station in the Red-Sea : On this understanding the pilgrims had taken their passage. A mysterious rumour ran through the ship that we were under orders to anchor at Penang. As we approached the roadstead, all hands were piped to stations. A pilot came on board, under whose guidance the "Arabia" glided slowly to her anchorage, gently rippling the smooth waters of the harbour with her sharp cut-water.

In the month of March Penang is at its loveliest. The sea

is a deep oily blue and the burning rays of the tropical sun find a facet for reflection in every ripple of the water. Away in the distance palm-covered hills rise sheer in the background, and rugged peaks ascend naked to heaven from tropical forests which clothe the base of the hills. Here and there a waterfall, tumbling from a height, sparkles in the sunlight and appears to lose itself among the trees. At the foot of the hills, in a forest of palm and cocoa-nut trees, lies Penang, fringed by a narrow glistening line of coral fore-shore. On the opposite side of the harbour a mangrove swamp, infested by malaria, which yields in the earlier months of the year to a single gun a bag of fifty brace of snipe in a day.

In the road-stead of Penang the "Arabia" floated backwards and forwards at the turn of the tide. The chief engineer was ordered to let off steam. The officers availed themselves of the opportunity of landing, and, leaving a few Europeans on board we rowed ashore nightly in the jolly-boat.

Penang, like every other tropical town, has a peculiar and indescribable odour. Decaying heaps of jack fruit and tropical vegetation fermenting in the open streets emitted an odour pleasant after our experiences on the Hadji ship. As we walked to the Hotel, the cicad chirped to us from the trees which line the main street. From the balcony we watched the fire-flies dancing with flitting light.

The pilgrims remained on board, expecting the ship to sail hourly; they feared to go ashore lest they should lose their passage money. Climbing the halliards, and creeping on to the awnings, they watched the chimney-stack of the steamer and thought that the smoke from the furnace of the condenser was a sign that the vessel was under steam. The boiling sun shone down on the single awnings, which it penetrated as light does glass. In the sweltering heat of mid-day the wind fell, and not a current of air moved in the ship. Panting for breath, the pilgrims looked forward to the off-shore breeze which springs up at night.

The death-rate increased rapidly. By day and night pilgrims, mistrusting the Hospital, died in the holds. When the quartermaster woke me in the morning, I became accustomed to inquire how many people had died in the night. Daily a boat load of corpses was sent ashore to be buried.

Meantime, from the South, native boats arrived in increasing numbers, bringing more and more pilgrims. By day and night boats dropped along-side and additional passengers climbed up the ropes by which the Hadjis drew up salt water. The agents of our charterer took the passes from the new arrivals, and packed them into the lower orlop deck. In this way Azigoff was able to frustrate the regulations of the Government.



The authorities of Penang took no notice of the ship lying at anchor in the road-steads;—she was merely visiting the harbour as a port of call. By this oriental device Azigoff was able to obtain the passage money of several hundred more pilgrims.

When the ship had remained ten days at Penang, the agent of Azigoff began to show unwonted activity: on deck he assembled and dismissed bands of pilgrims entering carefully into the matter of their payments. Even that rapacious man realised that the ship was full and could hold no more. Like bees in a swarm the pilgrims crowded the ship.

The prices of deck spaces rose with a bound. The chief officer regretted that he had not saved his speculations for the better market now afforded. At length the stations were piped, and, with a grating sound, the anchor of the "Arabia" parted from the mud of Penang. Slowly answering her helm, the ship came round on the ebb of the tide and steamed out to sea.

Prostrating themselves, the pilgrims sought their grass-plaited mats, and, folding their arms across their chests, knelt towards the setting sun that shone over the bows of the ship. In deep obeisance they bent forward till their foreheads touched the deck, and then, as the setting sun lit up their faces, kneeling upon the mat, they muttered in quick whispers their prayers.

Aft, on the quarter-deck, the high priest, dressed in white and wearing the green of the Hadjis, read from a parchment Koran in his hand the evening song of the Mussulman. As the rim of the blazing sun touched the horizon, a song of prayer went up from every pilgrim. Thus the sun set upon the Hadji ship, and in a moment the after-glow faded out over the purple waters of the horizon.

#### IV. THE DOCTOR OF THE HADJI SHIP.

The position of a doctor on board a Hadji Ship containing upwards of 2,000 pilgrims is fraught with grave responsibilities. There is always the danger of an epidemic; had small-pox or cholera appeared in our midst, I cannot imagine what would have happened. The Hospital and the boats, which afforded the only available accommodation, would have been totally insufficient.

My difficulties were considerably increased by ignorance of the Malay language, which was understood by nearly all the pilgrims. But with the aid of Hindoostani and an interpreter I was able to ascertain the complaint of the patient. Occasionally the interpreter himself, a thorough Malay, seemed beaten, and failed to make the patient understand. The Malay language is modified in some districts by colloquialisms beyond recognition.

As, comparatively speaking, the Hospital was large and commodious, the sick among the pilgrims did not overcrowd the institution. During the chief part of the voyage the eight shelves were empty.

I remember being called for'ard to see a man in a fit. He was ordered to be removed to the Hospital. His wife, weeping bitterly, implored that he might be allowed to remain on deck. The man was lifted from the box on which he sat and carried aft; and the couple so appreciated the comfort of the Hospital that they remained in it for the rest of the voyage. But the wife never forgave me, for in her short absence the family box had been looted and their money stolen.

The Hadjis showed great want of confidence in the European doctor and preferred to treat themselves. If they died on the voyage, they were confident that their souls would rest in heaven, and evidently they did not intend to risk the chance of salvation by taking European medicine. I flattered myself into the belief that the aversion of the pilgrims to the Hospital was merely a perversion of the confidence based on the idea that treatment might deter salvation.

It was the duty of the doctor and chief officer in company to visit the holds of the ship night and morning. It was a very necessary precaution to prevent the undetected out-break of an epidemic in our midst. In compliance with orders from the captain, we went below and inspected the ship. Separating at the foot of the wooden staircase which led over the combings of the hatch to the main deck, the chief officer went along the starboard side and I groped my way along the port side of the hold.

I climbed and crawled over the numerous bundles of the pilgrims' luggage, which in places were piled up to the roof. Like a man crossing a stream by stepping stones, I jumped from bundle to bundle. The darkness of the hold was illuminated by the glow of the pilgrims' hookahs: here and there, a pilgrim squatting on his baggage, held a tiny lamp in his hand by the light of which he chanted and read aloud the Koran. In certain places the path was perfectly dark, and one had to climb along a tunnel beneath the cross girders of the deck: if one met a Hadji crawling in the opposite direction, one or other had to go back.

The ventilation, so far as there was any, came from the main shafts of the ship. A huge canvas ear-shaped air tube was lashed to the upper rigging, and, with a head-wind, created a perceptible current of air. The opening of the air-shaft was carried down to the bottom of the hold. On the maindeck there were circular brass-mounted plates of thick glass which admitted a little light and air. In rough weather it was



necessary to close these small openings, through which the sea rushed at every lurch of the ship. Many of these plate-glass port-holes had been closed, for they served no use in a cargo ship. The atmosphere was stifling and horrible : words cannot describe its oppressiveness.

These inspections had such an effect upon us, that the chief officer and myself found it necessary to divide the interior of the ship into sections, each of which we visited in turn. Starting from the aft hatch, we travelled forward and issued at the main hold, where we ascended on deck and took breath before going further forward.

The worst place in the ship was the orlop deck, where the latest arrivals of pilgrims were forced to take refuge. This deck was completely below the water-line and lay just above the bilge, where, like ribs sloping to the spine, the big iron beams of the frame of the ship are drawn in towards the keel. At the end adjacent to the coal-bunkers, an accessory supply of coal had been stowed away. As the journey progressed, it was found necessary to open the bulk-heads and remove the coal, the place of which was quickly occupied by the pilgrims.

The orlop deck was an awful dungeon in which men and women, touching one another, slept from sheer exhaustion. Whenever I visited the hold, half the occupants were asleep. Well I remember turning over the form of an old man who appeared to be in a deep sleep : he proved to be dead, and, while he was yet warm, was carried on deck for burial. It was no uncommon occurrence to find a family seated on their baggage in the hold around the corpse of a relative, wailing like professional mourners. Although the relatives were sure that the departed had gone to heaven, with true human instinct they wept for the loss.

Among the pilgrims there were professional undertakers—keen lithe Arabs of whom Abdullah Hiram was the chief. Of this man it will be necessary to speak further. Abdullah and his partners charged a fee for their office, and it was an exorbitant one. A pilgrim refused to pay the sum demanded—he was an old man reputed to be rich, and he buried his wife. There was, in consequence, a disturbance, and the Captain was called in to arbitrate. The body was left exposed on the gang-way while the dispute was being settled.

The port gangway was the burial place. Decency shrouded it off with an awning, for here also the pilgrims stood naked, and, drawing up water in their buckets, emptied the contents upon their heads. In short, it was by turns a bathing and a burial place.

The limp dead were carried on deck by their heads and

heels, and deposited by their relatives among the undertakers, who washed and dressed the corpse. In the case of the poor, fire-bars were lashed round the body with a rope, and with little ceremony the dead were committed to the deep. With the rich, elaborate preparations were necessary. The body was carefully washed and robed. The corpse, heavily weighted with iron fire-bars, was sewn into a canvas shroud. The priests chanted, the relations wailed, and with a splash the dead was shot off from the gang-way on its journey through the depths.

During the voyage of five weeks fifty pilgrims died. There may have been more or less than two thousand on board; the numbers were never properly counted. If two thousand is the unascertained number of pilgrims, the death-rate on board would give a death-return of 25 per cent. per annum. At this rate the return would be 250 per mille, and if the pilgrims had remained four years on board they would have been exterminated. Compare these figures with the death-rate of London, which at the highest scarcely reaches 20 per mille during the year.

It is a difficult matter to certify the correct cause of death on viewing the dead, but it had to be done. Daily, bodies were brought out of the hold, and I was required to describe the cause of death. An autopsy of the corpse would have been impossible as well as dangerous. According to the appearance of the body I wrote in the log book, senility, debility or apoplexy.

Undoubtedly influenza carried off many of the pilgrims; at least, most of those who came under observation died from disease of the lungs accompanied by high fever. At the same time the symptoms might equally well have been ascribed to the foul atmosphere of the ship. The reluctance of the devout Mussulman to take stimulants in any form constituted a great difficulty in treatment, it was necessary to administer rum as medicine and it restored many of those who would otherwise have died. The spirit may have jeopardised their salvation, but it saved their lives.

We adopted a novel course for the distribution of chlorinated lime, a disinfectant which was of great value on the voyage. It would have been impossible to distribute the disinfectant by hand throughout the crowded ship. In the pathway leading 'fore and aft on the starboard-side a big heap of the white powder was daily replenished. The bare feet of the pilgrims as they walked along the path took up small portions of the powder which was in this way carried to all parts of the ship. At the end of the voyage the narrow footpaths on the deck of the "Arabia" were caked with



chlorinated lime trodden into the planks by many thousands of feet. Like rabbits returning to their holes carrying mud from distant fields upon their feet, the pilgrims distributed the disinfectant to all parts of the ship.

### V. THE MUTINY.

The relations existing between the Europeans and the Pilgrims were far from cordial ; there was no love lost on either side. The Hadjis, bent upon an expedition which aroused all their religious fervour, like the Crusaders of old, felt it their duty to strike at all unbelievers.

It must be remembered that not one half of the pilgrims expected to return to their native land. They carried their lives in their hands and fully realised that their souls would go to heaven if they died on the journey. Their motive was simple ; Mecca or heaven.

The Europeans, on the other hand, worshipped the unholy trinity of Pounds, Shillings, and Pence. All went well so long as the ship was directed upon its proper course and money came into the pocket. Had not a Scotchman among the Engineers twice let the space over the cabin, and twice taken money ? The pilgrims waxed indignant at the imposition, and attributed their privation and discomfort to the rapacity of the captain and officers.

Many legends concerning the Hadji trade were revived. A ghastly story was told about a certain engineer who, retiring late to his cabin, found the door blocked by sleeping forms of pilgrims. He must have been drunk. In a fit of passion he connected up the hose pipe with the steam pipe and sprayed boiling water down the alley way. Seven men were scalded to death on the spot. They say that the engineer disappeared out of the ship, the pilgrims having thrown him over-board. Another story relates how a broken down Hadji ship was deserted by all the European officers in the open seas, and left to perish. This vessel was taken in tow and saved by an English steamer belonging to a firm who have, owing to salvage, a very large interest at the present time in the Hadji trade. Another story tells how a cholera-stricken Hadji ship was passing through the Suez Canal, in which regulation forbade the burial of the dead. The pilgrims were dying by the score, and the living lay in contact with the dead. Matters became so bad that at last the Captain ordered the corpses to be slung over the side on the end of a rope. Thus, dangling over the side the dead slung with ropes round their necks, the Hadji ship passed through the canal and dropped the dead in the open waters of the Red Sea.

In their ignorance the pilgrims did not realize that they

were the victims of those of their own sect—the charterer and his agents on board. They attributed their distress to the avariciousness of the Europeans. The officers, leaning over the barrier, watched the evening prayer, and made disparaging remarks flavoured with unmistakable rankle of coarse English sarcasm. They stood before the pious Hadji kneeling on his mat and laughed derisively in his mumbling face.

The chief disparagers of the pilgrims were the Scotch Engineers. Their quarter lay amid-ships in the thick of the crowd: the smoke of the furnaces at which the pilgrims cooked their food, blew back into their mess room, and their cabin doors were constantly obstructed by Hadjis. Many of the shrewd Scotchmen had made money out of the pilgrims, but they did not consider that the money taken compensated their personal inconveniences. With a curse, they disparaged the devotion and self-sacrifice of the pilgrims whose sufferings and poverty made no impression upon them. Among the Engineers was one A—— who, having received a technical education in the factories at Glasgow, had risen to the rating of a marine engineer. He was a lank, bony fellow with long arms and sandy hair. I heard he could play the mandolin and swear against any other man in the ship. With my own eyes I have seen A—— walking the engineers' alley-way and deliberately treading upon the pilgrims with heavy boots as if he were treading out slugs or snails on a garden path. The Hadjis wriggled under cover; but they remembered the crush of his heavy foot, and waited a chance of revenge—as only an Oriental can wait.

Eight bells had gone from the bridge. A——, clad in Japanese kimono and light shoes, stepped out of the bath-room of the engineers. A sponge was in his hand and a rough towel waved upon his arm. Close to the door Abdullah Hiram, in yellow zouave, squatted on his hunkers, and obstructed with his person the opening of the door. Without a thought to consequences, A—— swore and kicked the Arab. In a moment Abdullah sprang to his feet, and, with lithe thin arms outstretched, jumped on the Scotchman with the spring of a cat. The long thin fingers of the Arab grappled at the throat of the European, who fell back overpowered. The veins on his forehead swelled under the pressure at his throat; his face became tinged and dusky; he tried to shout, but his tongue hung palsied in his mouth and breath failed.

Abdullah foamed in his ecstatic fury, and, clenching tighter his two hands, banged the head of his adversary upon the teak planks of the deck. A crowd of pilgrims gathered round the group, and cursed the insulting unbeliever. A Malay secured the feet of A—— with a rope and tied fast the knot. In a



moment he would have been silently thrown overboard. Abdullah, releasing his murderous grasp, looked round upon the willing group for support.

*Pani men dallo*, he hissed interrogatively. And they lifted the senseless body in their arms.

It happened that I was going to the bath-room along the overhead way and had been an unseen witness of the latter part of this scene. I rushed to the bridge, and, shouting to the officer on watch to follow, cleared the bridge stair-case with a bound. We forced our way through the crowd which was beginning to collect. Just as the prostrate engineer was being raised to the level of the rail, we came to the rescue. We untied the rope round his feet, and A——, bewildered, opened his blood-shot eyes. Abdullah gesticulated and talked rapid Hindoostani pointing to the bruise inflicted by the engineer.

Looking round, I could at once read the feelings of the Hadjis from the expressions on their faces. In every language an oath is intelligible; and the man who swears in a foreign tongue carries an unknown weight with his words. I have proved it scores of times: to swear in the language of the country is a mistake: after all there is nothing like English for expression. The Hadjis swore at us in their own tongue which was unintelligible to most of the Europeans, But I understood.

We raised the white man to his feet and led him aft. Abdullah followed, leading a rabble of enraged pilgrims. I was never more thankful in my life than when, reaching the engine-room stair-case, we hurriedly pushed A—— through the door-way, and saw the tottering steps of the Scotchman disappearing down the narrow iron stair-case.

An inquiry was held in the captain's cabin, and the evidence of witnesses lasted several hours. Abdullah, uttering threats, remonstrated and gesticulated with vehemence. He walked about the captain's cabin with a confident air, and put before the commander very forcibly the grievances of the pilgrims. A jabbering crowd of them thronged the barrier near the captain's cabin and looked at us with unfriendly eye.

The captain sent for the chief engineer, who appeared cap in hand.

"Where is Mr. A——, inquired the commander.

"Safe below, sir," said the engineer with a twinkle in his eye. "I think it will be better for him to stay below for the rest of the voyage."

The captain turned to Abdullah and said in Hindoostani:

"He is punished for his offences and will stay below for the rest of the voyage."

It is well for A—— that he did live for the rest of the voyage in the engine-room.

In single file two Hadjis, watch by watch, and day and night walked up and down in front of the engine-room door and glared at the entrance like lions watching the bars of their cage. There is no doubt that, had the Scotchman appeared on deck, he would have been thrown over the side, dead or alive.

The captain did not take the precaution of confiscating offensive weapons on the voyage ; it is the custom on all Hadji ships to deprive the pilgrims of fire-arms. Of course, the men must have knives and hatchets to cook their food and cut their firewood. Owing to this error of judgment we ran a considerable risk of mutiny and blood-shed. The pilgrims, to our knowledge, had fire-arms beneath padlock and key, with which they intended to defend themselves against the Bedawins, robbers of the desert. We felt safe as long as the ship was out of sight of land, for, though most of the pilgrims were sailors and accustomed to the sea, not one of them could navigate the ship. The use of the compass was entirely unknown to them.

The incident with A——, the engineer, increased the ill-feeling existing between the pilgrims and Europeans. As I went daily through the holds, I could hear them spit on the deck, the greatest insult a Mussulman can offer, next to calling his foe a pig.

Abdullah, leader, guide, extortioner of the pilgrims, knew, from frequent journeys, every stone and every ship on the way to Meccah. Nine times had he visited Meccah, and he was a Hadji wearing the green to the ninth power. Nine times had he vowed to live celibate and abstain from spirit according to the rules governing true Hadjis. But familiarity with holy places had engendered wantonness in this excellent Hadji, and his halo was unstarched and crumpled.

Abdullah was the officiating representative of our charterer, whose interests he guarded with strict integrity. In the absence of the high priests, he chanted the Mahomedan Service at sundown. Aided by various important personages, he superintended the burial of the dead from the gangway, and charged an exorbitant fee for the office. Abdullah was a man of means and resources : he could make himself intelligible to all our motley passengers, and spoke all the languages of the East. The Arab was not a bad fellow. At the Hospital he afforded the greatest help ; and, though he was mean and grasping at their funerals, he was kind and considerate to the sick lying on the shelves. As a reward for interpretation I gave him daily two doses of Jamaica rum, which he, forgetting his vows, swallowed with much appreciation.

The dignity of the Arab had been injured by the Scotch



engineer. Like all orientals, he was slow to forget and slow to forgive. A wild spirit of revenge filled his soul.

The incident in which A—— nearly lost his life, occurred within sight of land, when the ship was passing the Cape de Galle. The pilgrims pointed to the cocoa-nut palms fringing the coral fore-shore, and, with open Korans, indicated the tropical garden of our common ancestress—Eva, as they called her.

During the twelve days run to the Gulf of Aden the pilgrims, out of sight of land, grew restless, and the flame of their discontent was fanned by Abdullah. They wore upon their faces the disappointed look of a dog ready to bite, but tied by a chain.

At last we sighted land, the barren rocks of Socotra. The Hadjis, in their excitement, climbed the awnings and ropes, shouting "Arabie." The barren look of the shore, destitute of vegetation, suggested the sun-burnt sandy wastes of Arabia Felix. The pilgrims, gazing at the purple rugged cliffs, felt new assurance. At length the promised land, girt with sand and coral, had been sighted, and over the sand-heaps and desert lay Meccah.

It was the duty of the third officer to superintend the distribution of fresh water from the condenser. Seated on the tarpaulins covering the winch for'ard the main hold, he smoked, watching the motley array of pilgrims, who occupied two hours of his attention every morning.

A long ragged crowd of half-dressed pilgrims, carrying empty kerosine tins upon their heads, waited at the barrier on the starboard side. From fore and aft streams of Hadjis converged to the barrier, at which, showing their passes, they received in return the prescribed gallon per head. Having obtained his rations, the pilgrim passed away by the port side of the ship to his quarters.

The Lascars, arrayed in blue blouses and red turbans, guarded the barriers, and allowed the pilgrims to pass one by one. Hitherto the proceedings during the voyage had been quiet and orderly. The Lascars did the work, and the officer in charge smoked, reclining on the tarpaulin of the winch.

Suddenly a Hadji crept out of turn beneath the barrier, dragging an empty kerosine tin after him. A Lascar detected the pilgrim in the act of breaking the regulations and pushed the man back. The tin fell on the deck with a loud clang. In a moment the resisting Hadji was felled to the deck by a blow from the sturdy sailor.

A hoarse roar of disgust and a hiss of reproach went up from the crowd of Hadjis who witnessed the encounter: they dropped the tins from their heads, and, with curses on their lips, pressed forward. In a moment the massive barrier was

carried away by the weight of the infuriated pilgrims, who swept in a mad rush past the officer. It was fortunate that the latter was able to take refuge behind the winch. Leaning against the railing round the combings of the main hatch, he was comparatively safe from the fury of the pilgrims, who were intent on punishing the Lascars. The Lascars, driven back by the stampede, fled for'ard, seeking refuge in the forecastle. Jumping over odd arms and legs in their path, they reached their quarters before the general alarm had been given.

Lying in my bunk, I heard the press of countless feet and the wild shouts of the flying Lascars. I knew that something had happened, but what?—On ship-board the very keel may drop out of the vessel without the knowledge of the passengers. I hurried on my uniform and went for'ard.

The entrance of the forecastle was narrow, allowing the ingress of a man of small stature: a two-foot massive stay blocked the lower part of the door-way which in heavy weather prevents the sea from reaching the inhospitable quarters of the forecastle. On the starboard side the Lascars had their quarters, and slept on rough shelves, beneath which their heavy seamen's chests were pushed out of the way. On the port side the Zanzibaree fuzzies—wuzzies, who were employed in the work of the engine-room, resided. At the time of the disturbance it chanced that the stokers and hands working below-deck were changing watch in the forecastle, which was crowded with men who had just risen from their bunks. The Hadjis followed the Lascars to the starboard entrance of the forecastle, and filled the approach, narrowed by the crews' galley and the cabins of the quarter-masters. At the door-way the Lascars made some show of resistance; but the pilgrims forced an entrance of the forecastle and collared the offending sailor who had done his duty at the barrier.

The forecastle of a merchantman is sacred to its occupants, and the Seedy boys resented the intrusion of the pilgrims. Without much difficulty the Seedy boys—āg-wallas and pani-wallas—ejected the intruders, and stood guarding the entrance to the forecastle. Heavy clubs were produced from their boxes; each man in the forecastle had some primitive weapon of offence.

The crisp-haired Zanzibarees, independent gentlemen satisfied with a pair of boots and a high hat, from the beginning of the voyage, showed no sympathy with the enthusiasm of the pilgrims. Unlike the officers, they did not tread upon them and insult them, but merely passed them by in callous contempt. They despised them from their hearts. Frequent ocean voyages and the examples of superiors had deprived the Seedy of religious sentiment, and shattered his primitive faith to atoms.



The Seedy boys held the entrances of the fore-castle as chained dogs hold the approach of their kennels. Most of them wore—so far as they were clothed—oily rags which served in turn for trousers and shirt. Dirty from the crown of their head to the soles of their feet, begrimed about the eyelashes with coal dust, they kept back the rush of pilgrims to the fore-castle.

Lying in the bunk of my cabin, I heard the cry of fury and the rush of the multitude of bare feet. I climbed the wooden staircase on the side of the deck cabin and ran forward along the planking to the bridge. The officer on duty could not leave the watch, and he hurriedly told me that a serious disturbance was afoot. Beneath the bridge all was confusion: the word of alarm had been given, and Hadjis poured out of the hold like bees in swarm. For'ard the well-deck was packed with a yelling crowd, choking the entrances of the fore-castle. Each man of the crowd held in his hand a chopper or stick, and here and there a revolver stuck up from the sea of heads, supported by a thin hand.

In haste I ran along the single plank beside the stanchions to the fore-castle. Lowering myself over the roofs of the cabins, I descended into the narrow gap separating the crew from the Hadjis.

I do not altogether remember what happened. I know I said: "Atcha." I put out my hands, and, with a gesture of Moses standing between the living and the dead, endeavoured to widen the interval between the pilgrims and the Seedees. Never shall I forget the sight of the savage faces of the Seedees peering round the entrance of the fore-castle. Then the captain and chief officer came on the scene, and how they got there I do not know. I felt the touch of their clothing and recognized the English accent of their Hindoostani. The guilty Lascar was produced from the fore-castle. The captain led the sailor aft for trial. A rush of half naked blacks surrounded us, and Hadjis struggled to approach the sailor and shout a curse in his ear. We were swept aft, past the stewards cabin, past the bathroom, till we came to the staircase of the bridge, where the captain obtained foothold and ascended, dragging the Lascar after him.

On the bridge all the Europeans of the ship were collected.

They had opened the case in the chart room and taken out the fire-arms. It was found that the cartridges would not fit the breach of the revolvers. Save for half a dozen rifles and boiling water from a hose-pipe, we were helpless. The chief blocked the approach to the bridge with arms on either rail. Standing high on the stair-case above the crowd, he was in a position to keep back the rush which followed the steps of the Lascar.

Beneath us the pilgrims completely blocked the well-deck : from the pressure on all sides, the mass of human beings, yelling taunts and insults, was stationary. Clinging to the stanchions, Hadjis hung in clusters, like hop-vines climbing a hop-pole.

The fore-mast and rigging were dense with devout Moslems, who, contrary to orders, had climbed thither to watch the turn of events. In the back-ground near the galley the Seedy boys, standing shoulder to shoulder, glared defiantly at the mob of pilgrims.

Abdullah of the yellow zouave wrestled with the Chief on the staircase and eventually managed to creep beneath his out-spread arms. Gesticulating vehemently and talking at a rapid rate, the leader of the pilgrims stood before the captain on the bridge and confronted the limp Lascar, upon whom the wrath of the pilgrims was centred. The Arab dashed his hand within a few inches of the sailor's nose, and, craning forward his neck, swore in Hindoostani and Arabic. Standing on tip-toe, he agitated himself like a marionette before the Lascar.

Two enraged Hadjis climbed the staircase to the bridge behind Abdullah and in broken Hindoostani taxed the Lascar with undue violence. An inquiry was held, and the third officer, who had witnessed the quarrel, was called. He did not deny that the Lascar had struck a pilgrim, who by this time had crept up on the bridge and sat trembling on his hunkers, a very abject sight of misery with a bruise upon his forehead.

There were loud cries in Malay, Arabic and Hindoostani.

"Kala pani men dallo" (throw him in to the blue waters).

Hadjis tried to climb the staircase, and were pushed back by force. Still the crowd shouted : "Throw him overboard;" and Abdullah talked faster and faster. The pilgrims insisted that the Lascar should be thrown over-board and clamoured loudly. The captain refused to entertain the idea, and repeatedly told Abdullah that such an act would entail terrible consequences to himself. The officer on watch saw on the horizon the smoke of an approaching steamer. Unbidden by the captain, he ordered the quartermaster to run up signals for assistance. The course of the "Arabia" was altered and the ship bore down upon the unknown vessel, which proved to be a British steamer.

The pilgrims in the rigging also saw the vessel and abated their clamour. The word of warning was passed aft, travelling from mouth to mouth.—The crowd began to disperse, and Hadjis innumerable climbed down from the awnings and rigging on to the deck.

Abdullah held a council with two ragged Hadjis on the bridge, and controlled his vehemence.

"Sahib," said Abdullah to the captain, "if you beat him, we will be content."



"No," replied the Captain, "he shall not be beaten upon my ship."

Again Abdullah consulted with his followers.

"Sahib," said Abdullah "we will be content if the Lascar is bound in prison for three days."

The captain acceded to the request, and by his orders the Lascar, who had done his duty, was led away to the upper bridge, where he was bound to the binnacle. For three days and three nights the sailor was condemned to do penance for his integrity and remain without food and drink.

After two hours spent in useless wrangle with the Hadjis, we sat down at 4 p.m. to tiffin and discussed the problems of the disturbance.

The scape-goat for our sins was bound to the binnacle of the upper bridge, and the crowd of Hadjis had dispersed so far as they could in crowded quarters. The British steamer passed on the starboard side, dipping her flag in answer to our salutation; and the "Arabia," making eight knots an hour, steamed through the blue waters of the Straits of Babel-Mandeb to Kamorin in the Red Sea.

( *To be continued.* )

#### ART. X.—A CHITTAGONG FAMILY.

THE Rai Family of Paroikora trace their connection with the Chittagong District as far back as the middle of the 16th Century, when their ancestor, Sadananda Das, is said to have emigrated thither from Western Bengal. For more than a century after this date Chittagong was the bone of contention between the Moghuls, the Arrakanese and the Tipperas. The district was "imperfectly conquered" from the Arrakanese by Akbar, and its revenue was only approximately estimated in Todar Mal's settlement of 1582. It was not until the Nawab Shaista Khan successfully invaded the district, in 1666, that Chittagong was actually incorporated with the Moghul Empire.

Sadananda Das was a member of the Salankayana gotra of the Baidya caste, and his family was probably, therefore, of Northern Indian origin, as this sub-caste is rarely found in Lower Bengal.

As was the case with other early immigrants from Bengal, it is probable that Sadananda and his descendants took service, first, with the Arrakanese rulers. At any rate it is certain that after the Moghul conquest the family rose to a position of influence at the Court of the Nawabs, as the title of Rai, which was conferred upon Ananta Das, fourth in descent from Sadananda, clearly indicates. Several members of the family also received the titles of Kanungo and Lala, which show that they were employed by the Moghuls in the keeping of the revenue accounts of the district. The office of Kanungo was an important one during the period of oscillation in revenue administration which preceded the Permanent Settlement. The Kanungoes of Chittagong resided at Dacca, and retained local agents at Chittagong, whose business it was to keep the land revenue accounts. In 1788 there were three Kanungoes, who collected from the Zemindars a sum of Rs. 1,872 per annum for their maintenance.

During the first two centuries after Sadananda's arrival at Chittagong, his descendants had acquired a large quantity of landed property in the district and many of the large Tarafs or estates in Chittagong bear the names of members of the family. Thus Taraf Briguram Kanungo, Raj Ballabh Kanungo and Braja Kishor were acquired during this period and named after the grantees. Eighth in descent from Sadananda was Kali Charan Rai, whose name is still a household word in the district. He was one of the farmers with whom Mr. Goodwin, who was Chief of Chitta-



gong and a friend of Warren Hastings, concluded the settlement of 1774. Kali Charan was born in 1754, so that he was 6 years old when the district was ceded by Mir Jaffier Khan to the English. He was appointed Dewan, or head revenue officer, in 1784, an office which he held until his death in 1790, being the first native of Chittagong to hold this post. He acquired the island of Maiskhal under rather peculiar circumstances. This island, which lies off the coast opposite to Cox's Bazar, was originally granted by Warren Hastings's Government to one Robert Worlledge. This transaction was completed in 1782, and in the same year M. Worlledge transferred his title for Rs. 20,000 to Mr. Charles Croftes, who was then Collector of Chittagong. Mr. Croftes sold his interest in the island to Kali Charan for Rs. 40,000 in January, 1786, and the island has remained ever since in the possession of the family.

Kali Charan had three wives, of whom Probhabati is a well known character in Chittagong history. Kali Charan had left no sons living, and Probhabati adopted a boy named Chandi Charan Rai. The adopted son rose to be treasurer, and in that capacity committed large defalcations, which were brought to the notice of the Collector, who suspended Chandi Charan, announcing his intention to examine the cash on the following day. Chandi Charan was, however, equal to the occasion. He contrived to procure the missing cash, and to have it replaced in the treasury during the night; but, in order to do so, he was compelled to sell or mortgage all the family property with the exception of Maiskhal Island. The management of the island devolved upon Probhabati, who, by the exercise of great prudence and ability, contrived not only to preserve it from the extravagance of her adopted son, but greatly to develop its resources.

Probhabati lived until 1826,—and her sound common sense and business capacity have rendered her famous in the annals of the district. She, moreover, built and endowed the shrine of Adhinath, which, perched high upon a hill that overhangs the blue waters of the Maiskhal Channel, is an object of pilgrimage and worship second only in the district to the shrines of Sitakund. After Probhabati's death, in 1826, the Court of Wards assumed management of the family estates during the minority of Chandi Charan's son, Sarat Chandra. Sarat Chandra Rai attained his majority in 1841, and survived until 1876. He cleared the property of the encumbrances which had been created by the extravagance of his father, and purchased large landed estates on the mainland. He was succeeded by his son Kailas Chandra Rai, who still further added to the family estates. Kailas Chandra was of an artistic temperament, and

cultivated the arts of painting, carving and music. He died in 1889, leaving a son Prosonna Kumar Rai, who has inherited the now considerable family property. He was educated in Calcutta, and is an enlightened landlord, a member of the District Board, and an Honorary Magistrate.

This sketch has followed the fortunes of a Chittagong family for three hundred and fifty years. Thirteen generations have passed away since Sadananda Das made his way to the district, and only once has the line of blood descent been broken. That breach threatened the very existence of the family, and it has been seen how its fortunes were saved from ruin by the energy of Probhabati, and by the spirit which she infused into her successors. The history of this great lady, at once pious and prudent, should serve as a bright example to her sex in Bengal, where the conditions of life rarely permit the attainment by a woman of the position which she filled so nobly. Her name should be a household word in Bengal, and her memory should be cherished, as of one who was 'full of good works' and a brilliant example of all that is best in womanhood.

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ART. XI.—THE MALABAR TENANTRY AND THE  
IMPROVEMENTS BILL.

*(From the Tenants' point of view.)*

**M**ALABAR is peculiar in most things, and in none perhaps more so than in its apparently complex system of land tenures. Nowhere else in India is to be found a system of feudal polity wherein the prevailing modes as to the possession and enjoyment of land are so many and involved, and disputes arising therefrom of such frequent occurrence, as in the Malayalam Country, *i. e.*, the tract of country which comprises British Malabar and the native states of Travancore and Cochin, and stretches down to Cape Comorin. An examination of the nature and peculiarities of the more important of these tenures, will, indeed, prove an interesting and instructive study : a study especially seasonable at the present time, when the Malabar Tenant's Improvements Bill is looming prominently on the Legislative horizon, and the respective rights and relations of landlord and tenant form, throughout the length and breadth of Malabar, the topic of every-day talk and discussion. To most men, such a study will come in the light of a revelation ; and if only it serves to open the eyes of our legislators and of the Government to the state of things as they really exist, its result indeed will have been most beneficial.

But before proceeding to enquire into the general question of the tenure of land and of tenants' rights in Malabar, I think it will be best to offer here a few remarks on some of the more salient features of the new Bill under discussion,—remarks incidental to the question of land as a whole, and throwing a lurid side light on some of the more crucial problems connected with its occupancy.

The Bill, on the face of it, aims at giving relief to tenants, and, in whatever shape it eventually passes into law, it will, as goes without saying, touch the pockets and tell on the interests of tenants : for tend it must, in one way or another, either to materially better their condition as a class, or to depress them more than heretofore. The Bill has no such close and direct bearing on the weal and prosperity of landlords. Its effect, so far as they are concerned, is comparatively unimportant. There are reasons for this. For one thing, the number of *jenmies* (or landlords) is small, disproportionately small compared with the number of tenants. Often rich and powerful *jenmies*—not to speak of *jenmies* of the first magnitude like the Zamorin, the Kuthiravattath Nair, and the Varikashire Nambudripad, for

instance—have several hundreds of tenants under them. Then, again, the *jenmies* (unlike the tenants, whom they often rack-rent and oppress, and generally evict every twelve years) are, as a rule, a thriving and a flourishing class. As for the tenant, on the contrary, his holding is all he has, and land to him is everything. His capital is narrow in the extreme; often he has none, and is obliged to borrow his seed grain. His resources are extremely limited. The class of capitalist farmers with ample means, abundance of manure and haulage power at their disposal, is in Malabar, a rarity. But the *jenmies* stand on a different footing. The majority of them know no lack of ways and means. They are tritons among minnows by hereditary right. Spoiling the Egyptians, or their modern equivalents, the tenants, is their hereditary pastime. They, as a class, regard this as a perfectly justifiable procedure, in thorough keeping with their right of *dominium*, or absolute *jenmian* ownership. They have no end of devices—indeed, they have elevated it into, and cultivate and practise it as, a fine art—for sponging on the hard-earned cash of their original co-proprietors, the tenants. A common device with a *jenmi* is to accept from his *kanakkaran* a considerable *douceur*, or earnest money (say Rs. 10,000), and in return allow him credit for a *kanom* claim of only a much smaller sum (say Rs. 1,000), as the amount advanced by him. Again, what often happens is that, just before the expiry of the customary twelve years, the *jenmi* makes a better bargain with some new tenant. He pockets another *douceur* and demands the restoration of the land of the original *kanakkaran*, returning the amount advanced by him. Or he gives a *melcharth* (writ of revocation) to the new tenant, which authorises him to evict the former tenant from his holding. Then comes the periodical renewal fees (*polichabthu*), forming one of the regular sources of a *jenmie's* income, formerly amounting in the most favourable cases to about 25 per cent. of the mortgage advance, but now, however, extravagantly enhanced. Over and above these, a *jenmi* exacts from his vassal sundry customary fees and perquisites (just as a feudal lord in the Middle Ages received from his tenant aids, reliefs, and benevolences); offerings, as when permission is sought of the local chieftain by a dependant to erect a porter's lodge, build a tiled or two-storeyed dwelling-house, or celebrate a marriage or *tali-kettu-kalyanam*, with becoming pomp and ceremony; presents on high days and festivals, as during the *Onam*, when it is incumbent on every dependent to visit his Suzerain and acknowledge his fealty; and fines and penalties for breaches of caste law or of social usage.

These rights and privileges (?) of theirs, the *jenmies* exercise



in virtue of their vaunted birth right of *dominium*, or full absolute property in the soil,—an altogether erroneous and indefensible doctrine first promulgated by the Joint Commissioners in the proclamation of 1793 and since reiterated by the Civil Courts in accordance with the Sadr Adalat circular of 1856,—under a serious misapprehension of the *jenmi's* true position in regard to land as a mere hereditary grantee and holder.

In regard to the Malabar Tenant's Improvements Bill itself, the prevailing opinion seems to be that it is likely to prove beneficial only to the people of North Malabar. It cannot, indeed, prove beneficial to the people of South Malabar, because there most of the tenants' holdings consist of rice fields. This, however, is not the case in North Malabar, where *naucha* (*i. e.*, wet) lands are few in number, if not the exception, and *kûrikûr* and *chamayam* holdings (corresponding respectively to the plantations and fixtures known to the English Common Law, and as such entitled to compensation for improvements on the land) are the rule: the former including all fruit-bearing trees, shrubs, and vines; the latter comprising all sorts of buildings, such as houses, cow-stalls, tanks, wells granaries, walls &c.

Thus, in South Malabar, where the number of garden lands is small, the only class of tenements—the word is used in its original proper and legal sense—for which anything like adequate compensation can be claimed on eviction, is that designated by the term *kudiyiripu*. The *jenmies* know this only too well, and accordingly what they do is this: they demise on *kanom* the latter kind of holdings for which they shall be bound to pay compensation, separately; and wet lands, or rice fields, for which no compensation can lie, also separately. And why do they do this? The *jenmi* need not give a pie on the score of improvements if, after the customary twelve years, he takes it into his head to evict the *kudiyan* (tenant) from his—to him very valuable—*naucha* holdings. From his *kudiyiripu* (or dwelling-house and compound), the *jenmi*, of course, does not think of evicting him at all. Thus it will be seen that the Bill is not an unmixed blessing as regards South Malabar: indeed, in this one important particular, it fails in the two essentials of more protection to the yeoman from the cupidity of the landlord, and from the stress of rents forced up by stimulating unhealthy competition amongst tenants, and bolstered up by the oppressive *melcharth* system. Therefore, in order that the Bill may prove beneficial to the tenantry of South Malabar and conduce to their well-being generally, two things should be done: the peasant should be given greater security as regards his *naucha* holding, and he should be afforded adequate relief

when evicted from the rice-land from which he draws his support.

And how may this be effected? By a simple method. When the *jenmi* transfers, on *kanom* demise, wet lands to his *kudiyar*, provision is made in the document of lease—this form of tenure partakes of the nature of both a lease and a mortgage—that the former shall be paid so many *paras* of paddy as *pattom* (rent), less the interest on the mortgage advance and the Government assesment; and the tenant annually pays (generally in kind) the stipulated *paras* of paddy to the *jenmi*. This arrangement is invariably arrived at after a careful reckoning of the *pattom* on the holding, having due regard, of course, to the yield of the land at the actual time of transfer. Thus, it is an easy thing to ascertain afterwards, the *pattom* amount of a particular holding at the time of lease. Now what constitutes wealth in Malabar (more so, in South Malabar), is the *naucha* or rice land: it is the tenant's subsistence, the landlord's capital, and the chief source of revenue to the State. And the Bill provides for giving compensation only for such improvements as are not only real, but also apparent and visible. Now, what I propose should be done is this: that, if anything in the shape or nature of an increase in the yield or productive value of the soil can be shown by a tenant to have taken place during his tenure of a *naucha* or rice field, the whole benefit of it should not lapse to the landlord, but that he should share it with the tenant, who should be accorded a reasonable portion of it. In other words, it should be made law—a clause should be inserted in the Bill to some such effect—that if, on the determination of a lease, or in the event of an eviction, it appears to a Civil Court that the *verum-pattom* paid to the *kudiyar* by his sub-tenant exceeds in amount the original *pattom* settled to be paid to the *jenmi* at the time of lease, this increase should be regarded as tantamount to an "improvement," and be presumed to be due to the *kudiyar's* exertions: and the latter should be awarded such a sum of money as shall yield interest at the rate of six per cent. per annum on the improvement value.

U. BALAKRISHNAN NAIR.



## ART. XII.—KITTY KIRKPATRICK AND BLUMINE.

IT has been pointed out to us that none of the biographers of Carlyle have accepted the theory, originated by Mr. George Strachey, in an article on "Carlyle and his Rose Goddess," in the *Nineteenth Century*, and accepted by Mr. J. J. Cotton in his article on "Kitty Kirkpatrick" in the *Calcutta Review* for April last, that Kitty Kirkpatrick was the original, so far as there was an original, of the Blumine of the *Sartor Resartus*. With the view of placing both sides of the question before our readers, we reprint herewith, with the author's permission, the 14th Chapter of Mr. David Wilson's recent work on Mr. Froude and Carlyle, which deals with it at length, under the title of "Thomas Carlyle's Apprenticeship in Love." At the same time, we append a letter on the question, with reference to Mr. Cotton's article, published in a recent number of the *Madras Mail*, together with Mr. Cotton's reply thereto.

### THOMAS CARLYLE'S APPRENTICESHIP IN LOVE.

Mrs. Carlyle was ready to speak to intimate friends about her own early experiences in love-making, but it was never safe for any one to allude to Margaret Gordon in *her* hearing.

Professor Masson was surprised to find that Carlyle himself, however, was not reluctant to speak of that fair lady. Without giving names, he told the old story to his friend, and in the "Reminiscences" he jotted it down.\*

Carlyle was about twenty-one years of age when he first saw Miss Gordon, "fair-complexioned, softly elegant, softly grave. Witty and comely," living "cheery though with dim outlooks" with her aunt, a childless widow lady at Kirkcaldy, when Carlyle went there as school-master.

"She had a good deal of gracefulness, intelligence, and other talent. . . . Her *accent* was prettily English, and her voice very fine," as Carlyle still remembered after half a century.

Mr. Strachey and some others have published some reminiscences of Carlyle, explaining in particular his relations with the Strachey family. All who study Carlyle's life must be grateful for these. More such reminiscences may perhaps be yet hoped for. But, while thankfully accepting the facts stated concerning a man of world-wide importance, we have to scrutinise conclusions and conjectures based upon only some of the known facts and not in harmony with all. Accordingly, the Strachey family tradition that "Kitty Kirkpatrick" was the "Blumine" of "*Sartor Resartus*" seems questionable, or more than questionable. A few suggestions for external circumstances were all that were derived from that part of Carlyle's actual experience.

There was much esteem and friendship but never any serious love-making between young Carlyle and Miss Kirkpatrick. Letters and

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\* See the "Reminiscences," ii. 57, 58, 59; and also D. Masson's "Edinburgh Sketches and Memories," pp. 257, &c.

other documents prove this beyond all doubt. The suspicion of sweet Miss Kitty as a possible rival slightly alarmed Miss Welsh for a while; but *very* little would suffice for that. Carlyle seems to have been quite blameless and steadfast to his Jane, to whom indeed he was engaged to be married before he ever saw Miss Kitty. Mr. Froude's narrative probably contributed to mislead Mr. Strachey, and make him attach undue importance to trivial coincidences.

There is no room for doubt that the only episode in Carlyle's own life which much resembled Teufelsdröckh's experience was the romantic love between him and Margaret Gordon.

Teufelsdröckh is a fictitious character whose sentiments resembled Carlyle's a little, but only a little, more than Dr. Faust's resembled Goethe's. Indeed Teufelsdröckh seems more like Faust than Carlyle. He is a *wiser* Faust—one who reads better than the famous doctor the sphinx-riddle of life.

Blumine, too, is expressly fictitious. We must remember that the first reader of "Sartor Resartus" was Mrs. Carlyle. That explains fully Blumine's "gifts," "graces," and "*caprices*," her "*light* yet so stately form," her "*dark* eyes," and "those *dark* tresses, shading a face where smiles and sunlight played over earnest deeps." Nay, many expressions in that charming chapter of "Sartor" seem reminiscences of the love-letters that passed between Carlyle and his "dearly beloved Jane."

Indeed, it is more likely that the conventional romantic imagination may find it agreeable to suppose that the passion experienced by the Teufelsdröckh of fiction resembles Carlyle's love for Miss Welsh as much as his love for Miss Gordon. It often happens, as Shakespeare knew, that an earnest man loving a second time may love more warmly than before.

If this view is correct, Teufelsdröckh's disappointment was partly a reminiscence of Carlyle's loss of Margaret Gordon, but partly also an anticipation of what his feelings would have been if he had lost Miss Welsh too. Teufelsdröckh's attitude to women after the catastrophe is not unlike what Carlyle told his saucy Jane would be his, if she did not wed him.

However this may be, it is certain that, when writing "Sartor Resartus" at Craigenputtock, Carlyle would have endangered his domestic peace if any other figure than his Jane's had been recognisable in Blumine. The resemblance goes deeper than the mere details, many of which are common to her and Miss Kirkpatrick.† For instance, Mrs. Carlyle loved roses and cultivated them at Craigenputtock. She was as much of a "Rose-Goddess," therefore, as Miss Kirkpatrick.† In character no less than in figure and complexion, &c., Blumine much resembled Miss Welsh as she *was*, and perhaps still more closely Miss Welsh as she and her husband and lover thought she was. Such are the extremities to which even a gifted writer may be driven, if his "dearly beloved" is of a jealous turn of mind. Mrs. Carlyle always was so—an indubitable fact, however difficult to reconcile with Mr. Froude's story.

There is no possible room for doubt, however, that before he ever saw Miss Welsh, Carlyle was in love with Miss Gordon and found his love returned; but "economic and other circumstances," meaning his inadequate income and indifferent social position, made her and her aunt terminate the acquaintance. The aunt, once a Miss Gordon herself, was "the Duenna Cousin," "in whose meagre, hunger-bitten philosophy, the religion of young hearts was, from the first, faintly approved of,"

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† Many more details might be quoted, if a narrative could be written without regard to brevity. *E.g.* cp. "Reminiscences," i. p. 147, &c.



perhaps scarcely suspected. She was, Carlyle remembered long afterwards, "childless, with limited resources, but of frugal cultivated turn; a lean, proud, elderly dame"; but she "sang Scotch songs beautifully, and talked shrewd *Aberdeenish* in accent and otherwise,"—never *too* polite, it may be feared, to the somewhat awkward tall young man, whose conversation must have often entertained and sometimes surprised her. He took no offence at her airs toward the schoolmaster, and she perhaps fancied that *her intellect* attracted his homage, before she discovered where the attraction was.

So the months passed, "twelve or fifteen months." Then the aunt saw how matters were drifting and acted—with decision. The woman who hesitates is lost; and Miss Gordon's *aunt* did not hesitate. She left Kirkcaldy, taking her niece with her, and Miss Gordon wrote the loving adieu which Mr. Froude has printed.

That letter was probably an after-thought on her part, an attempt to excuse herself. The "Reminiscences" closely resemble "Sartor" in describing the actual adieu. In both cases, the cause of the parting was the same (economic circumstances), and the manner of it very similar. The only difference is that the story as told in "Sartor Resartus" was, naturally, more explicit.

"Speak to her," wrote Carlyle in the "Reminiscences," "since the 'Good bye then' at Kirkcaldy . . . I never did or could."

Compare with this the conclusion of Teufelsdröckh's romance.

"One morning, he found his Morning star all dimmed and dusky red; the fair creature was silent, absent, she seemed to have been weeping. Alas, no longer a Morning star, but a troublous skyey Portent, announcing that the Doomsday had dawned! She said, in a tremulous voice, 'They were to meet no more.' The thunder-struck Air-sailor is not wanting to himself in this dread hour: but what avails it? We omit the passionate expostulations, entreaties, indignations, since all was vain, and not even an explanation was conceded him; and hasten to the catastrophe. "*Farewell, then, Madam!*" said he, not without sternness, for his stung pride helped him. She put her hand in his, she looked in his face, tears started to her eyes; in wild audacity he clasped her to his bosom; their lips were joined, their two souls, like two dew-drops, rushed into one,—for the first time, and for the last! Thus was Teufelsdröckh made immortal by a kiss. And then? Why, then—'thick curtains of Night rushed over his soul, as rose the immeasurable Crash of Doom; and through the ruins as of a shivered Universe was he falling, falling, towards the Abyss.'"

No wonder Carlyle also soon left Kirkcaldy; but, like the true noble man of Nature that he was, he made no attempt to persevere with his suit. All the ladies who ever knew him agreed that he was one of the most chivalrous men of modern times. It was not lack of passion that restrained him. On the contrary, it took him "perhaps some three years" to compose himself, and then he also could say "adieu" in his heart.

It was characteristic of him that, in love as in religion, he was in earnest, and never "sentimental." Professor Masson is clearly right (as against Mr. Froude) in saying that "his clear intellect had cut down like a knife between him and the theology from which he had parted, leaving no ragged ends. . . . He was not involved in the coil of those ordinary 'doubts' and 'backward hesitations' of which we hear so much . . . in feebler biographies."

Even so in love, too, he could recognise plain facts, however disagreeable, and when Thomas Carlyle first saw Miss Welsh's bright face, about three years after he left Kirkcaldy, his heart was *not* pre-occupied. Long before then he had seen Margaret Gordon for the *last* time, so

far as he cared. He had, in deference to her wishes, made no attempt to write to her,† and was ceasing to think of her. After they parted, he never spoke to her again. As a French lady expressed it, he was “a dangerous man to *trifle* with,”—a man who, if he fell in love once more, would be terribly in earnest.

There is a curious coincidence well worth notice. It was about three years after he parted from his first love that he met Miss Welsh, and he remarked in his “Reminiscences” that Margaret Gordon hung in his fancy “for perhaps some three years . . . on the usual romantic, or latterly quite elegiac and silent terms.” His poetical adieu to her seems to have been written soon after he met Miss Welsh; so it may have been that, like Romeo in Shakespeare’s tragedy, though less precipitate, he found the best remedy for one passion in another. It is assuredly the most effectual—an unfailing remedy, and indeed the only “specific” worth mention in such cases.

Though he never spoke to Margaret Gordon again, he *saw* her twice more than twenty years afterwards. I quote from the “Reminiscences,” inserting, duly marked, some words taken from another account he gave. She had become “the ‘Dowager Lady——,’ her Mr. Something having got knighted before dying.” “Bannerman” was her name, Masson tells us.

“I saw her, recognisably to me, here in her London time (1840 or so), *twice*, once with her maid in Piccadilly, promenading, little altered; a second time that same year or next, on horseback both of us, and *meeting* in the gate of Hyde Park.” . . . “*She was bending a little, tapping her boot in the stirrup with her riding whip, when she looked up and saw me*, and “her eyes (but that was all) said to me almost touchingly, ‘Yes, yes, that is you!’ Enough of that old matter . . . now quite extinct.”

“Though he talked,” says Professor Masson, “prettily and tenderly on the subject, the impression left was that the whole thing had become ‘objective’ to him, a mere dream of the past. But fifty years had then elapsed since those Kirkcaldy days when Margaret Gordon and he were first together.”

“Fifty years” is a long time in the life of a man. Much changes and becomes extinct in fifty years; yet even in his old age he thought worthy of preservation the tender “Adieu” which he probably hummed to himself in lonely walks round Edinburgh,—an “Adieu” worth reading yet, full of earnest, passionate sincerity, coming straight from the heart of a man who had loved and lost.

“Let time and chance combine, combine,  
Let time and chance combine;  
The fairest love from heaven above,  
That love of yours was mine,  
My dear,  
That love of yours was mine.

“The past is fled and gone, and gone,  
The past is fled and gone;  
If nought but pain to me remain,  
I’ll fare in memory on,  
My dear,  
I’ll fare in memory on.

“The saddest tears must fall, must fall,  
The saddest tears must fall;

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† She refused to give her address in saying adieu; but Carlyle’s friend Irving knew her in Glasgow, and could have supplied her address if Carlyle had asked for it.



In weal or woe, in this world below,  
I love you ever and all,

My dear,

I love you ever and all.

“ A long road full of pain, of pain,  
A long road full of pain;  
One soul, one heart, sworn ne’er to part,—  
We ne’er can meet again,  
My dear,  
We ne’er can meet again.

“ Hard fate will not allow, allow,  
Hard fate will not allow;  
We blessed were as the angels are,—  
Adieu for ever now,  
My dear,  
Adieu for ever now.”

## KITTY KIRKPATRICK AND “BLUMINE.”

SIR,—In the interesting article by Mr. J. J. Cotton extracted in the *Madras Mail* from the *Calcutta Review*, Mr. Cotton says that Miss Kitty Kirkpatrick was the original, so far as there was an original, of the “Blumine” in Carlyle’s *Sartor Resartus*. Froude, on the contrary, in his *Life of Carlyle* (Vol. I. p. 52) says: “Margaret Gordon was the original, so far as there was an original, of ‘Blumine’ in *Sartor Resartus*.” Mr. Cotton takes his stand on an article by Mr. E. Strachey in the *Nineteenth Century* for September, 1892, which contains many interesting reminiscences of Carlyle and of his friends the Stracheys and of Miss Kitty Kirkpatrick. It also proves quite conclusively, I think, that recollections of these friends of their home and of the surroundings went to compose the picture in *Sartor*. But it fails—in my view at least—to prove the main thesis, namely, that Miss Kitty was “Blumine.” At the time Carlyle made this young lady’s acquaintance he was 29 years old and was attached to and in regular correspondence with Miss Jane Welsh, whom he afterwards married, though there was as yet no engagement between them. In later years, after *Sartor* had been written and published and Miss Kirkpatrick and her friends found reminiscences of themselves and their home in the book, the lady once challenged Carlyle that she had never made him “immortal by a kiss,” whereupon they both laughed heartily, *Nineteenth Century* 1892, p. 475). But the “immortality” may have been conferred by some one else—and this some one else was Margaret Gordon. Carlyle himself tells us, in his *Reminiscences*, as plainly as one could expect, who “Blumine” was. I will quote from *Sartor* and from the *Reminiscences* and italicise the words that give the clue:—

“One morning he found his Morning Star all dimmed and dusky red; the fair creature was silent, she seemed to have

been weeping. Alas! No longer a Morning Star, but a troublous skyey Portent, announcing that the Doomsday had dawned. She said in a tremulous voice 'they were to meet no more.' The thunderstruck Air-sailor is not wanting to himself in this dread hour; but what avails it? We omit the passionate expostulations, entreaties, indignations, since all was vain, and not even an explanation was conceded him; and hasten to the catastrophe. "*Farewell then*, madam: said he, not without sternness, for his stung pride helped him. She put her hand in his, she looked in his face, tears started to her eyes: in wild audacity he clasped her to his bosom; their lips were joined; their two souls like two dew-drops rushed into one,—for the first time and for the last! Thus was Teufelsdröckh made immortal by a kiss. And then? Why, then thick curtains of Night rushed over his soul as rose the immeasurable Crash of Doom; and through the ruins as of a shivered Universe was he falling, falling, towards the Abyss."

Now for the *Reminiscences* (Vol. I p. 139) and Margaret Gordon. At the time referred to Carlyle was 22 years old and a schoolmaster in Kircaldy. He says:

"By far the cleverest and brightest (of the young ladies), however . . . I did at last make some acquaintance with; . . . *and it might easily have been more* had she and her aunt and our economies and other circumstances liked. She was of the fair-complexioned, softly elegant, softly grave, witty and comely type, and had a good deal of gracefulness, intelligence and other talent. . . . To me who had only known her a few months and who within twelve or fifteen months saw the last of her, she continued for perhaps some three years a figure hanging more or less in my fancy on the usual romantic, or latterly quite elegiac and silent terms. . . . An aunt (widow in Fife, childless, with limited resources, but of frugal cultivated turn, a lean proud elderly dame . . .) had adopted her and brought her hither over seas. . . . A year or so after we heard the fair Margaret had married some rich insignificant Aberdeen Mr. Something, who afterwards got into Parliament, thence out to Nova Scotia (or so) as 'Governor', and I heard of her no more, except that lately she was still living about Aberdeen, childless, as the Dowager Lady, her Mr. Something having got knighted before dying. Poor Margaret! speak to her since the '*good bye, then*' at Kircaldy in 1819 I never did or could. I saw her recognisably to me here in her London time, twice (1840 or so), once with her maid in Piccadilly, promenading, little altered; a second time, that same year or next, on horseback both of us, and meeting in the gate of Hyde Park, when her eyes (but that was all) said to me almost touchingly, 'Yes, yes, that is you.'

That the "good bye, then" at Kircaldy refers to the "fare-



well then" of *Sartor* there can, I think, be no doubt, and the "stung pride" prevented him from ever speaking to her again.

It is a curious thing that Mr. E. Strachey makes no reference to these passages in his article in the *Nineteenth Century*. I cannot avoid the conjecture that he did not verify Froude's quotation from the *Reminiscences* which is given in the *Life of Carlyle*. Froude, as every one knows, used to garble his quotations. In the present case he has omitted from his quotation the very sentence (in which are the italicised words) which proves the correctness of his assertion that Margaret Gordon was the original of "Blumine."

If it is not making a long letter too long I should like to quote from Margaret Gordon's farewell letter to Carlyle. It is perhaps the most singular piece of insight and prophesy ever penned by a girl of eighteen:—

"And now, my dear friend, a long long adieu; one advice and as a parting one consider, value it. Cultivate the milder dispositions of your heart. Subdue the more extravagant visions of the brain. In time your abilities must be known. Among your acquaintance they are already beheld with wonder and delight. By those whose opinion will be valuable they hereafter will be appreciated. Genius will render you great. May virtue render you beloved. Remove the awful distance between you and ordinary men by kind and gentle manners. Deal gently with their inferiority, and be convinced they will respect you as much and like you more. Why conceal the real goodness that flows in your heart? I have ventured this counsel from an anxiety for your future welfare, and I would enforce it with all the earnestness of the most sincere friendship. Let your light shine before men, and think them not unworthy the trouble. This exercise will prove its own reward. It must be a pleasing thing to live in the affections of others. Again adieu. Pardon the freedom I have used and when you think of me, be it as a kind sister, to whom your happiness will always yield delight and your griefs sorrow.

Yours with esteem and regard,

A.

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#### KITTY KIRKPATRICK AND "BLUMINE."

SIR,—I am obliged to your correspondent "A" or his letter on the subject of Carlyle's "Blumine." It amounts to the statement that the italicised words, "good-bye, then," in a passage of the *Reminiscences*, when compared with the words, "farewell then, madam," in the "immortal kiss" chapter of *Sartor Resartus*, prove the correctness of Froude's assertion that Margaret Gordon was the original of "Blumine." The point

is said to be emphasised by "Mr." E. Strachey's omission to refer to this passage in his article in the *Nineteenth Century* for September, 1892.

I am afraid that your correspondent has penned his letter (most of which is recopied from Froude's *Carlyle*, Volume I, pages 51 to 53, and all of which was well known to me before) without fully perusing Mr. Strachey's *locus classicus* in the *Nineteenth Century*. Otherwise he would hardly have misquoted the name of the writer. Sir Edward Strachey, I may say, is the author of the article in *Blackwood's Magazine* which describes the romantic marriage of Hushmat Jung: and it is his brother George who is responsible for the article entitled "Carlyle and his Rose Goddess" which appeared in Mr. Knowles's Magazine. This George is the son of Mr. Edward Strachey, Mountstuart Elphinstone's friend and correspondent, and his article should be thoughtfully read in its entirety. To quote its prefatory words: "The statements here made have been carefully tested by all available means, witnesses have been carefully questioned and cross-questioned with Socratic rigour, and other precautions taken to preserve the date of actual contemporaneous knowledge from subsequent embellishment and mutilation."

Further on he remarks:

"Mr. Froude guesses that the Rose-goddess is Margaret Gordon, a young person who squelched Carlyle's love for her in his schoolmaster days in a letter which is extant, and throws more light on his external individuality than on her own. An earlier commentator thought otherwise. 'The story of the book,' said Mrs. Edward Strachey to her son, 'is as plain as a pikestaff. Teufelsdröckh is Thomas himself. The Zähdarms are your uncle and aunt Buller. Toughgut is young Charles Buller. Philistine is Irving. The duenna cousin is myself. The rose garden is our garden with roses at Shooter's Hill, and Rose-goddess is Kitty.'"

"The identities which were then plain to an expert with my mother's peculiar personal and topographical knowledge may be traced now by anyone who compares *Sartor Resartus* with the *Reminiscences*. The Waldschloss of Graf Zähdarm, Excellenz, is a palpable, though glorified, replica of Shooter's Hill.

"'Examiner' Strachey's house stood in 'an umbrageous little park with rose gardens,' and on Carlyle's first vision of 'dear Kitty' she was busied amongst the roses and almost buried under them." According to *Sartor Resartus*, the noble mansion of the Zähdarms stood in "umbrageous lawns" in proximity to a garden house hardly inferior to itself, which was "embowered amid rich foliage, rose clusters, and the hues and



odours of a thousand flowers." The characteristic flower is as plentiful as it was on the nascent Island of Rhodes. When "Blumine" appears on the scene we read: "Now that Rose-goddess sits in the same circle with him." But this only brings us within the propylæa of our edifice of truth. As Teufelsdröckh's ecstatic condition develops, the Rose-goddess grows into a dawn myth. We read in *Sartor* of the "many-tinted radiant Aurora"—of "this fairest of orient light bringers," of "Blumine" as being in very deed "a Morning-Star," which appellation is given her more than once. "The sentence of this Latin is," to quote the "Examiner's" favourite Chaucer, that Miss Kirkpatrick's Christian names were Catherine Aurora!

That "Blumine" personified Miss Kirkpatrick has always passed in the family for a certainty, requiring no more discussion than the belief that Nelson stands on the column in Trafalgar Square. To myself, my cousin said that the love chapters of *Sartor Resartus* were *Dichtung und Wahrheit*, a mixture of poetry and prose fact, and she once observed that she had taken Carlyle to task on the subject of the final gush, remarking, "you know you were never 'made immortal' in that manner," whereupon they both laughed.

Mrs. Phillipps, who survived till 1890, further said that the words in *Sartor Resartus*, where Teufelsdröckh is "ushered into the garden house, where sat the choicest party of dames and cavaliers," exactly described the circumstances of Carlyle's visit to Shooter's Hill with Irving, when he saw "dear Kitty busied among the roses." As regards the identification of Graf Zâhdarm, it should be observed that in the lady's copy of *Sartor* there stand, in her handwriting, the words "Charles Buller, senior."

Of course it is an added attraction to India to think that Carlyle's leading lady should have been the daughter of a Begum, and it is precisely with this object that I wrote my little article for the *Calcutta Review*. But it may well be that Carlyle was performing a process well-known among photographers as "combination printing," and had worked up, in his best vein, pictures of both Kitty Kirkpatrick and Margaret Gordon for the love story in *Sartor Resartus*.

19th April.

J. J. COTTON.

### ART. XIII—THE ENCYCLOPÆDIA BRITANNICA.

THE remarkable success which has followed the attempt made during the last year to increase the sale of the ENCYCLOPÆDIA BRITANNICA by reducing the price seems to suggest a review of the history and the nature of the book. More than 15,000 copies of a special reprint of the Ninth Edition—the publication of which, begun in 1875, was completed in 1889—have been sold in less than a year, at half the publishers' catalogue price. As the work consists of 25 volumes, the total number of volumes thus sold is 375,000. The weight of one set is said to be 175 lbs. ; the total weight of the 15,000 sets sold is therefore almost 1,172 tons. The shelf-space occupied by the cloth-bound set in use by the present writer is 5ft. 7½in. ; the total shelf-space required for 15,000 such sets is, therefore, nearly 16 miles ; or, if calculated at the thickness per volume stated by the publishers (for half or full binding, presumably)—2½ inches, and 1½ inches for the index volume—the total shelf-space required, or the height the 15,000 sets would reach to if piled up is nearly 14½ miles, or much more than twice the height above sea level of any mountain on this planet. If laid out horizontally, and close together, the 375,000 volumes would cover 1 rood and 85 square yards of ground.

The publication of the first edition of this book was completed in 1771—128 years ago : it consisted of 3 volumes 4to, containing 2,670 pages, and 160 copper plates. The 9th, the current, edition consists of 24 volumes 4to of text, of about 850 pages each, besides an Index volume of 499 pages—a total of about 21,000 pages.

The *Encyclopædia Britannica* was from the first compiled on a new plan, in which, as the title page stated, "the different SCIENCES and ARTS are digested into distinct Treatises or Systems ; and the various Technical Terms, &c., are explained as they occur in the order of the Alphabet." The compilers were "a SOCIETY of GENTLEMEN in SCOTLAND." The alternative title of the book was—"A DICTIONARY of ARTS and SCIENCES." That of the Ninth Edition is—"A Dictionary of Arts, Sciences and General Literature." The plan of the work was enlarged with the second edition by the addition of history and biography, which encyclopædias in general had long omitted. "From the time of the second edition of this work," said the *Quarterly Review* (cxiii, 362), "every cyclopædia of note, in England and elsewhere, has been a cyclopædia, not solely of Arts and Sciences, but of the whole wide circle of



general learning and miscellaneous information." The Editor of the first edition, WILLIAM SMELLIE, a printer, afterwards Secretary and Superintendent of Natural History to the Society of Scottish Antiquaries, who is said by his biographer—as we learn from the *Encyclopædia* itself—to have revised the plan of the work and written or compiled all the chief articles, but to whom other writers do not agree to give such credit, was asked by Mr. Andrew Bell, the chief engraver in Edinburgh—who with Mr. Colin MacFarquhar, printer, was the publisher of the book—to edit the second edition, and to take a share of one-third in the work; but he refused because the other persons concerned in it, at the suggestion of "a very distinguished nobleman of very high rank" (said to have been the Duke of Buccleuch) insisted upon the introduction of a system of general biography which he, Mr. Smellie, considered inconsistent with the character of a dictionary of Arts and Sciences. Judging from the prosperous career of the *Encyclopædia* for more than 120 years since it was made, the suggestion of the Duke of Buccleuch—if it was his—was a wise and far-seeing one. The Editors of the ninth edition, which has run from 1875 to 1898, with a life which is now more vigorous than ever, attribute the prominent place which the *Encyclopædia* has long held amongst the other English *Encyclopædias* to the plan and method of treatment adopted from the first, and extended in the second edition. The plan was more comprehensive, and the treatment a happier blending of popular any scientific exposition than had previously been attempted in and undertaking of the kind.

"The distinctive feature of the work was that it gave a connected view of the more important subjects under a single heading, instead of breaking them up into a number of shorter articles. This method of arrangement had a two-fold advantage. The space afforded for extended exposition helped to secure the services of the more independent and productive minds who were engaged in advancing their own departments of scientific inquiry. As a natural result, the work, while surveying in outline the existing field of knowledge, was able at the same time to enlarge its boundaries by embodying, in special articles, the fruits of original observation and research. The *Encyclopædia Britannica* thus became, to some extent at least, an instrument as well as a register of scientific progress."

This characteristic feature of the work would be retained and made even more prominent—the new editors said—in the New Edition, but in some other respects the plan required modification, to meet the multiplied requirements of advancing knowledge. The rapid progress of science during the past quarter of a century had necessitated many changes and a considerable increase in the number of headings to be devoted to its exposition.

"Since the publication of the last edition, science, in each of its main divisions, may be said to have changed as much in substance as in form. The

new conceptions introduced into the Biological Sciences have revolutionised their points of view, methods of procedure, and systems of classification. . . . Sections of the subject have acquired new prominence and value, and are cultivated with the keenest interest. . . . The results of persistent labour in these comparatively new fields of inquiry will largely determine the classification of the future. Meanwhile the whole system of grouping, and many points of general doctrine, are in a transition state; and what is said and done in these directions must be regarded, to a certain extent at least, as tentative and provisional. In these circumstances, the really important thing is, that whatever may be said on such unsettled questions should be said with the authority of the fullest knowledge and insight, and every effort has been made to secure this advantage for the New Edition of the *Encyclopædia*."

The recent history of Physics was said to be marked by changes both of conception and classification almost equally great with those which had been introduced in the Biological Sciences.

"In advancing from the older dynamic to the new potential and kinetic conceptions of power, this branch of science may be said to have entered on a fresh stage, in which, instead of regarding natural phenomena as the result of forces acting between one body and another, the energy of a material system is looked upon as determined by its configuration and motion, and the ideas of configuration, motion, and force are generalised to the utmost extent warranted by their definition. This altered point of view, combined with the far-reaching doctrines of the correlation of forces and the conservation of energy, has produced extensive changes in the nomenclature and classification of the various sections of physics; while the fuller investigations into the ultimate constitution of matter, and into the phenomena and laws of light, heat, and electricity have created virtually new sections, which must now find a place in any adequate survey of scientific progress."

The application of the newer principles to the mechanical arts and industries had rapidly advanced and would require illustration in many fresh directions. Improved machines and processes, in almost every department of physics, had to be described, as well as fresh discoveries and altered points of view. The instruments of finer measurement and analysis had directly contributed to the discovery of physical properties and laws. The spectroscope was mentioned as a signal instance of the extent to which in our day scientific discovery was indebted to appropriate instruments of observation and analysis.

"These extensive changes in Physics and Biology involve," the Editor of the Ninth Edition said, "corresponding changes in the method of their exposition. Much in what was written about each a generation ago is now of comparatively little value. Not only therefore does the system of grouping in these sciences require alteration and enlargement; the articles themselves must, in the majority of instances, be written afresh rather than simply revised. The scientific department of the work will thus be to a great extent new. In attempting to distribute headings for the new edition, so as fairly to cover the ground occupied by modern science, I have been largely indebted to Professor Huxley and Professor Clerk-Maxwell, whose valuable help in the matter I am glad to have an opportunity of acknowledging."

Passing from Natural and Physical Science to Literature, History, and Philosophy, the Editor of the Ninth Edition noted that many sections of knowledge connected with these departments displayed fresh tendencies, and were working towards new results, which, if faithfully reflected, would require a new style of treatment.



"Speaking generally, it may be said that human nature and human life are the great objects of inquiry in these departments. Man, in his individual powers, complex relationships, associated abilities, and collective progress, is dealt with alike in Literature, History, and Philosophy. In this wider aspect, the rudest and most fragmentary records of savage and barbarous races, the earliest stories and traditions of every lettered people, no less than their developed literatures, mythologies, and religions, are found to have a meaning and value of their own. As yet the rich materials thus supplied for throwing light on the central problems of human life and history have only been very partially turned to account. It may be said, indeed, that their real significance is perceived and appreciated almost for the first time in our day. But under the influence of the modern spirit they are now being dealt with in a strictly scientific manner. . . . Already the critical use of the comparative method has produced very striking results in this new and stimulating field of research. Illustrations of this are seen in the rise and rapid development of the comparatively modern Science of Anthropology, and the successful cultivation of the assistant sciences, such as Archæology, Ethnography, and Philology. In the new edition of the *Encyclopædia* full justice will, it is hoped, be done to the progress made in these various directions."

The Editor of the Ninth Edition thought it necessary in his Preface to explain the position taken by the *Encyclopædia* in relation to the active controversies of the time—Scientific Religions, and Philosophical—because the prolific activity of modern science had naturally stimulated speculation, and given birth to a number of somewhat crude conjectures and hypotheses. The air was full of novel and extreme opinions, and the higher problems of philosophy and religion were being investigated afresh from opposite sides, though in a thoroughly earnest spirit. This fresh outbreak of the inevitable contest between the old and the new was a fruitful source of exaggerated hopes and fears, and of excited denunciation and appeal. "In this conflict," he said, "a work like the *Encyclopædia* is not called upon to take any direct part. It has to do with knowledge rather than opinion, and to deal with all subjects from a critical and historical, rather than from a dogmatic, point of view. It cannot be the organ of any sect or party in Science, Religion, or Philosophy. Its main duty is to give an accurate account of the facts, and an impartial summary of results in every department of inquiry and research. This duty will, I hope, be faithfully performed." But while observing this neutrality of treatment, important contributions to the knowledge of opinions must of necessity have been made.

To go back, in the history of the book—enlarged as it was by the inclusion of history and general biography—to the Second Edition, we find that it was published in numbers, issued from June 1777 to September 1784. There were between 8 and 9,000 pages, and at the end an appendix of 200 pages. The number and length of the articles were much increased. There were 340 plates, of which those containing the maps were all placed together under the article Geography (195 pages). The editor was Mr. James Tytler, M. A., and he is said to have written many of the scientific treatises and histories,

and almost all the minor articles. The Third Edition was published in weekly numbers, of which there were intended to be 300, price 10s. each, forming 30 parts at 10s. 6d., and 15 volumes with 360 plates. The first volume was completed in October 1788, and the edition in 1797: but it reached to 18 volumes 4to, containing 14 579 pages and 542 plates,—a marvellous extension of bulk in thirteen years. The maps were, as in subsequent editions, distributed among the articles relating to the respective countries. It was edited by Colin Macfarquhar as far as the article "Mysteries," when he died, in 1803, in his forty-eighth year, "worn out by fatigue and anxiety of mind." He was one of the founders and publishers and also the sole printer of the work. George Gleig of Stirling, afterwards Bishop of Brechin, and, later, primus of the Episcopal Church in Scotland, who as a student distinguished himself in mathematics and the moral and physical sciences, and after he took orders became a frequent contributor to the periodical literature of the time, was requested to edit the rest of the third edition, for which he had already written about twelve articles; "and for the time, and the limited sum allowed him for the reward of contributors, his part in the work was considered very well done. A life of Bishop Gleig, by the Rev. W. Walker, was published in 1879. Gleig induced Professor Robinson to become a contributor; and Robinson, revised the article 'Optics,' and then wrote a series of articles on Natural Philosophy, "which attracted great attention, and were long highly esteemed by scientific men." 10,000 copies of this third edition are said to have been printed, at a "profit to the proprietors of £42,000, besides the payments for their respective work in the conduct of the publication as tradesmen,—Bell as engraver of all the plates, and Macfarquhar as sole printer." According to Constable (*Memoirs* ii, 312) the impression was begun at 5,000 copies, and concluded with a sale of 13,000. When the edition was completed, the copyright and remaining books were sold in order to wind up the concern, and "the whole was purchased by Bell, who gave £13 a copy, sold all the remaining copies to the trade, printed up the odd volumes, and thus kept the work in the market for several years."

The supplement of the third edition, says the *Encyclopædia* itself, in the ninth edition,—printed for Thomson Bonar, a wine merchant, who had married Bell's daughter—also was edited by Gleig. It was published in 1801 in 2 vols., 4to, containing 1,624 pages and 50 copper-plates.

"In the dedication to the king, dated Stirling, 10th December 1800, Dr. Gleig says: "The French *Encyclopædia* had been accused, and justly accused, of having disseminated far and wide the seeds of anarchy and atheism. If the *Encyclopædia Britannica* shall in any degree counteract the tendency of that pestiferous work, even these two volumes will not be wholly unworthy of your



Majesty's attention. Professor Robinson added 19 articles to the series he had begun when the third edition was so far advanced. Professor Playfair assisted in 'Mathematics.' Dr. Thomas Thomson wrote 'Chemistry,' 'Mineralogy,' and other articles, in which the use of symbols was for the first time introduced into Chemistry, and these articles formed the first outline of his *System of Chemistry*, published at Edinburgh in 1802, 8vo., 4vols.; the sixth edition, 1821."

The Fourth Edition, printed for Andrew Bell, was begun in 1800 or 1801, and finished in 1810, in 20 volumes, 4to, containing 16,033 pages, with 581 plates engraved by Bell. No articles were reprinted from the Supplement, as Bell had not the copyright. 2 vols., containing 1,454 pages, were, it seems, added to the third edition, exclusive of the Supplement. "Professor Wallace's articles on Mathematics were much valued, and raised the scientific character of the work." Dr. James Millar, afterwards editor of the *Encyclopædia Edinensis*, was the Editor. Andrew Bell died in 1809, aged eighty-three, "leaving," says Constable, two sets of Trustees, one literary, to make the money, the other legal to lay it out after it was made." The edition concluded at 4,000 copies. (Early in 1804 Andrew Bell had offered Constable and his partner Hunter the copyright of the work, printing materials, &c., and all that was then printed of the fourth edition, for £20,000.) They intrusted Jeffrey with a design for publishing an entirely new Encyclopædia upon an improved plan, under which the authors were to be paid at least as well as reviewers, and were to retain the copyright of their articles. Cockburn, *Life of Lord Jeffrey*, 1852, ii. 90, says that most of Jeffrey's friends were eager to join in helping the enterprise. Stewart was to write the preliminary discourse, besides other articles. Playfair was to superintend the mathematical department, and Robinson the natural philosophy. "Thomas Thomson is extremely zealous in the cause. W. Scott has embraced it with affection." Then, perhaps, Constable gave £100 to Bonar for the copyright of the supplement to the third edition, which had contained articles by Robinson, Playfair, and Thomson.

The Fifth Edition was begun immediately after the Fourth was completed, as a mere reprint.

"The management of the edition, or rather mismanagement, went on under the *lawyer trustees* for several years, and at last the whole property was again brought to the market by public sale. There were about 1,800 copies printed of the first five volumes, which formed one lot, the copyright formed another lot, and so on. The whole was purchased by myself and in my name for between £13,000 and £14,000, and it was said by the wise booksellers of Edinburgh and others that I had completely ruined myself and all connected with me by a purchase to such an enormous amount; this was early in 1812." (Constable ii. 314).

Bonar, who lived next door to the printing office, got one-third of the property, and superintended the printing; but he

died in 1814. Dr. Millar corrected and revised the last 15 volumes. The preface is dated 1st December 1814. The book was finally published in 20 volumes, 16,017 pages, 582 plates, price £36, and was dated 1817.

Soon after the purchase of the copyright, says the *Encyclopædia*, in giving its own history, Constable began to prepare for the publication of a supplement, to be of four, or, at the very utmost, five volumes. Dugald Stewart recommended that four discourses should "stand in front," forming "a general map of the various departments of human knowledge," similar to the "excellent discourse prefixed by D'Alembert to the French *Encyclopædia*, together with historical sketches of the progress since Bacon's time of modern discoveries in metaphysical, moral, and political philosophy, in mathematics and physics, in chemistry, and in zoology, botany, and mineralogy; but he declined to write anything himself until later on, should his health and other engagements permit. He recommended Playfair and Sir Humphrey Davy to be engaged to write two of the discourses. Constable at first intended to have two editors, "one for the strictly literary and the other for the scientific department." He applied to Dr. Thomas Brown, but he "preferred writing trash of poetry to useful and lucrative employment." At last Constable fixed on Mr. Macvey Napier, whom he had long known as a hard student; and fitted for the task.

"Napier went to London, and obtained the co-operation of many literary men. The supplement was published in half-volume parts from December 1816 to April 1824. It formed six volumes 4to, containing 4,933 pages, 15 plates, 9 maps, three dissertations, and 669 articles, of which a list is given at the end. The first dissertation, in the progress of metaphysical, ethical, and political philosophy, was by Stewart, who completed his plan only in respect to metaphysics. . . . Sir James Mackintosh characterised this discourse as 'the most splendid of Mr. Stewart's works, a composition which no other living writer of English prose has equalled. . . . The second dissertation, 'On the progress of mathematics and physics,' was by Playfair, who died 19th July 1819, when he had only finished the period of Newton and Leibnitz. The third, by Professor Brande, 'On the progress of Chemistry from the early middle ages to 1800,' was the only one completed. These historical dissertations were admirable and delightful compositions, but it is difficult to see why they should form a separate department, distinct from the alphabetical arrangement."

The Sixth Edition, revised, corrected, and improved, appeared in half-volume parts, price 16s. in boards, vol. xx, part ii, completing the work in May 1823. The Supplement edited by Macvey Napier, appears not to have been incorporated in this edition. "Constable, thinking it not wise to reprint so large a book year after year without correction, in 1820 selected Mr. Charles Maclaren (born 7th October 1872) as Editor. His attention was chiefly directed to the historical and geographical articles. He was to keep the press going, and have the whole completed in three years." . . .



"Many of the large articles, as Agriculture, Chemistry, Conchology, were new or nearly so; and references were given to the supplement. A new edition in 25 vols. was contemplated, not to be announced till a certain time after the supplement was finished; but Constable's house stopped payment 19th January 1826, and his copyrights were sold by auction." Those of the *Encyclopædia* were bought in 1828 for £6,150, by a Syndicate which included Adam Black, and which had previously begun the seventh edition. Not many years later Mr. Black purchased all the shares and became sole proprietor.

The preface to the Sixth (?) Edition was dated March 1824, and contained an account of the most important previous encyclopædias, related the history of the "Britannica," and mentioned "under each great division of knowledge, the principal articles (in the sixth edition) and their authors names, often with remarks on the characters of both."

"Among the distinguished contributors were Leslie, Playfair, Ivory, Sir John Barrow, Tredgold, Jeffrey, John Bird Sumner, Blanco White, Hamilton Smith, and Hazlitt. Sir Walter Scott, to gratify his generous friend Constable, laid aside 'Waverley,' which he was completing for publication, and in April and May 1814 wrote 'Chivalry' (an article not reprinted in the 9th edition). He also wrote 'Drama' in November 1818, and 'Romance' in the summer of 1823. As it seemed that encyclopædias had previously attended little to political philosophy, the editor wrote 'Balance of Power,' and procured from James Mill 'Banks for Savings,' 'Education,' 'Law of Nations,' 'Liberty of the Press,' and other articles which, reprinted cheaply, had a wide circulation. McCulloch wrote 'Corn Laws,' 'Interest,' 'Money,' 'Political Economy,' &c. Mr. Ricardo wrote 'Commerce' and 'Funding System,' and Professor Malthus, in his article 'Population,' gave a comprehensive summary of the facts and reasonings on which his theory rested. In the article 'Egypt' Dr. Thomas Young first gave to the public an extended view of the results of his successful interpretation of the hieroglyphic characters as the stone of 'Rosetta'. . . . . There were about 160 biographies, chiefly of persons who had died within the preceding 30 years. . . . . Arago wrote 'Double Refraction,' and 'Polarization of Light.' Playfair wrote 'Æpinus' and 'Physical Astronomy.' Biot wrote 'Electricity' and 'Pendulum,' but his articles had to be translated.

The Seventh Edition, also edited by Macvey Napier, assisted by James Browne, LL.D., was begun in 1827, and published from March 1830 to January 1842. It was reset throughout and stereotyped, and it ran to 21 volumes 4to, (with an Index of 187 pages), and contained 17,101 pages, and 506 plates. Mathematical diagrams were printed in the text from woodcuts.

"The dissertations—1st, Stewarts 289 pages; 2nd, 'Ethics' (136 pages) by Sir James Mackintosh, whose death prevented the addition of 'Political Philosophy'; 3rd, Playfair's 139 pages; 4th, its continuation by Sir John Leslie, 100 pages—and their index of 30 pages, fill vol. i. As they did not include Greek Philosophy, 'Aristotle,' 'Plato' and 'Socrates' were supplied by Dr. Hampden, afterwards Bishop of Hereford. Among the numerous contributors of eminence, mention may be made of Sir David Brewster, Prof. Phillips, Prof. Spalding, John Hill Burton, Thomas de Quincey, Patrick Fraser Tytler, Capt. Basil Hall, Sir Thomas Dick Lauder, Antonio Panizzi, John Scott Russell, and Robert Stephenson. Zoology was divided into 17 chief articles . . . . . all by James Wilson. The biographical articles, in this

as in all the editions of the *Encyclopædia*, do not embrace the names of persons living at the time of publication."

An interval of about eleven years occurred before the publication of the Eighth Edition began, under the editorship of Dr. Thomas Stewart Traill, professor of Medical Jurisprudence in the University of Edinburgh. This edition also consisted of 21 volumes (with an index of 239 pages, and it contained 17,957 pages, only 402 plates,—about 100 fewer than in the seventh edition—but many woodcuts.

"The dissertations were reprinted, with one on the 'Rise, Progress, and Corruptions of Christianity' (97 pages) by Archbishop Whately, and a continuation of Leslie's to 1850, by Professor James David Forbes, 198 pages, the work of nearly three years, called by himself his '*Magnum opus*' (Life pp. 361, 366). Lord Macaulay, Charles Kingsley, Isaac Taylor, Hepworth Dixon, Robert Chambers, Rev. Charles Merivale, Rev. F. W. Farrar, Sir John Richardson, Dr. Scoresby, Dr. Hooker, Henry Austin Layard, Edw. B. Eastwick, John Crawford, Augustus Peterman, Baron Bunsen, Sir John Herschell, Dr. Lancaster, Professors Owen, Rankine, William Thomson, Aytoun, Blackie, Daniel Wilson, and Jukes, were some of the many eminent *new* contributors among the 344 authors, of whom an alphabetical list is given with a key to the signatures. In the preface a list of 279 articles by 189 writers classed under 15 heads, is given, instead of the enumeration of the chief articles and their writers, and with critical remarks and explanations, inserted in previous prefaces. It " (the list ?) " is very much clearer and more useful, though its tabular form excluded all particulars except in notes. This edition was not wholly reset like the seventh, but many long articles were retained almost or entirely intact.

"The publication of the Ninth Edition (the present work) was commenced in January 1875."

The plan of the *Encyclopædia Britannica*, as adopted in its first edition and modified from time to time, with the shape it finally in the 9th edition, have, with the help of the latest preface, been sufficiently explained above. The leading features of the work as it now stands may now be mentioned.

About fourteen heads seem to cover the most important and valuable articles to be found in the 9th edition : these are (1) HISTORY ; (2) SCIENCE—Natural and Physical ; (3) LITERATURE ; (4) MEDICINE ; (5) PHILOSOPHY—mental and moral ; (6) ECONOMICS ; (7) THEOLOGY ; (8) LAW ; (9) GEOGRAPHY ; (10) The Fine Arts ; (11) MUSIC and the DRAMA ; (12) BIOGRAPHY ; (13) MECHANICAL ARTS, and (14) INDUSTRIES. Under each of these heads some of the more famous contributors, and a few of the important articles they have written, may be mentioned.

In HISTORY—The Right Honorable James Bryce, M. P., the author of *The American Commonwealth*, and the History of the *Holy Roman Empire*, which is the Standard work upon that subject, wrote 'Emperor' and 'Empire,' 'Justinian,' and 'Theodora,' the woman who, though of low birth and first known as an actress, rose to be Justinian's wife, and with him ruler of the world. Other writers on historical subjects were Mr. John Morley, Mr. C. Allan Fyffe, Professor Freeman,



who wrote 'The Normans,' and, in conjunction with Professor Gardiner, 'History of England'; Prof. R. Rawson Gardiner, Professor J. R. Seeley—'Napoleon I.' Dr. Richard Garnett, who has but lately retired from the post of keeper of the Printed Books in the British Museum, contributed articles on Augustan and Byzantine History, the Legend of Faustus; Milman and Niebuhr, and other Roman historians; on Alexander VI., and the History of the Popes, and many others, all which are characterised as crisp, first-hand studies of the subjects with which they deal. John Addington Symonds, "the man who came near to making the period of the Renaissance wholly his own," pictures that period; while Professor Villari tells the story of modern Italy, and also of the house of Medici. Professor Jebb, the Regius Professor of Greek and Member of Parliament for Cambridge University, of whom it is said there are "few living men so deeply versed in the lore of the ancients," wrote for the *Encyclopædia* a notable series of studies of the history and Literature of Greece, the famous orators of Athens, and the poets of that olden time. Professor Donaldson also wrote on the history of Greece.

Mr. Reginald Stuart Poole, of the British Museum, dealt with Egypt, Professor Gosse with Denmark, Professor Muirhead with Prussia, and Professor Sayce with Babylonia; Sir George Cox wrote of the Crusades, Professor Lindsay of the Lollards, and Dean Church of the Lombards.

The *Encyclopædia Britannica* claims to be a LIBRARY OF SCIENCE in itself, in which the man who takes an interest in scientific affairs, apart from his own field, will find a clear and accurate introduction to the various fields of scientific work which he has not time to study in the works in which these are treated of at full length.

"For such as these the *Encyclopædia Britannica* constitutes an almost invaluable possession. Indeed, the criticisms which was urged against it at the time of its completion that it gave over so much of its space to scientific subjects—is one that specially commends it to people interested in this fascinating field of research. There is probably no one who would bring up this criticism at the present day; popular interest in science has been stimulated in so many ways, and by so many new discoveries, that it is now clear how far-sighted was the judgment of the editors of the *Encyclopædia* in presenting Natural Science so thoroughly in its pages.

"How valuable the various scientific treatises of the *Encyclopædia Britannica* are felt to be by scientific men themselves is sufficiently indicated by the almost endless quotations which are made from these articles. One meets them everywhere."

The average *Encyclopædia* is the work of hack writers and one does not look for fresh, vigorous, first-hand treatments in such works.

"But the most notable characteristic of the *Encyclopædia Britannica* is that it is not the work of hacks, but of masters—masters in every field of scientific thought, and not masters of mere detail only, but of form and exposition as well.

VOL. CIX.]

"It would be somewhat invidious to single out separate articles ; but note a few. No writer, living or dead, could be more distinctly qualified to treat of the subject of Evolution, in the organic world, than the late Professor Huxley, and it is he who writes the article upon this subject for the *Encyclopædia Britannica*. Lord Kelvin stands confessedly first among living physicists, and it is he who writes the articles upon Heat and Electricity. The subject of Physiology is treated by Professor Michael Foster, the President elect of the British Association, whose larger work on Physiology (in five volumes) is the standard among English speaking people."

Professor Foster has been at the head of the department of Physiology at Cambridge since 1883 ; and for the *Encyclopædia Britannica* he wrote a treatise on his special topic, which is said to be "simply astonishing in the amount of information it condenses into a brief hundred pages."

"The late Professor Clerk-Maxwell contributed a series of articles—'Atom,' 'Attraction,' 'Capillarity,' 'Diffusion,' 'Ether,' &c., which were intended"—so says his school and college fellow, Professor P. G. Tait, in a biographical notice he wrote for the *Encyclopædia*—"as parts merely of one comprehensive system, in which a general *resumé* of all that is known of the properties of matter should be given in simple yet profound completeness. The reader of these articles cannot but feel how much has been lost when this splendid series cannot be completed by its initiator."

With similar authority Professor Georgett Darwin wrote of 'Tides,'—dealing, as a mathematician, with the marvellous phenomena of bodily tidal friction, "of which phenomena he may be said to have been practically the discoverer, since no one saw before him the tremendous rôle which these phenomena have played in the formation of the solar system." Sir Archibald Geikie, the Director of the Geological Survey of the British Isles, was the author of 'Geology,' a treatise which extends over 165 pages of the *Encyclopædia*—equal to a 500 page book of ordinary size. Archibald is a charming writer, and his books, 'The Scenery of Scotland,' and the 'Volcanoes of Ancient Britain' (the titles are quoted from memory), ought both, of the first named at least, to be included in the list of the "100 best books," which people are so fond of compiling. Lord Rayleigh treats of Optics ; Professor Romanes wrote 'Instinct ;' Professor Lankester took charge of Zoology ; and Sir William Crookes—"the inventor of the well-known Crookes-tube, through which came the discovery of the Röntgen Rays"—for many years President of the Chemical Society of England, and last year President of the British Association.—wrote 'Assaying.' Sir Norman Lockyer—"now recognized as perhaps the foremost of English Astronomers," took charge of the Sun. Sir Norman's earliest notable work was as editor of the *Army Regulations* : he began work in the War Office, and did not take up a scientific career until well



on in life. Professor Shuster treated of Spectroscopy, Professor Geddes of Morphology, and Dr. Alfred Russell Wallace—whose latest (?) book, 'The Wonderful Century,' contains a very interesting *resumé* of the progress of Science—besides a denunciation of Vaccination from a statistical point of view, which is very curious and coming from such a man worthy of careful consideration—wrote of the Distribution of Plants and Animals, and Acclimatisation.

Dr. P. G. Tait, Professor of Natural Philosophy in the University of Edinburgh, and Secretary to the Royal Society of Edinburgh, besides the biographical notice of Clerk-Maxwell mentioned above—treated of Light and Thermo-dynamics, and other subjects. It is to be hoped that he may be looked to to revise and continue in the promised supplement to the *Encyclopædia* the series of articles on the properties of matter which his fellow-student, Clerk-Maxwell, left unfinished. Of the Library of Science the *Encyclopædia* comprehends, it is said :—

"Practically every name among the foremost living men of science in England \* \* \*. And, what is more to the point, there is no single topic of importance which is not treated by a writer who is recognised as an authority upon the subject the world over. It is not given to any man to become the master of all the marvellous store of knowledge which is to be found in the *Encyclopædia Britannica*; but it is certainly true that any one who gains a fair working acquaintance with its important treatises would be amongst the most widely and accurately informed of men. In other words it is possible to gain from this single work a thorough and comprehensive education."

"A LIBRARY OF LITERATURE" also the *Encyclopædia Britannica* claims to be.

"One enjoys a poem, or a novel, or a work of history more, when through anecdotes and various bits of biography, one has come to know something of the personality of its author; and it is doubtless this sense of more or less acquaintance which makes one appreciate modern writers so much more than the great writers of the past. . . . Inensibly we come to neglect the immortals, because they seem to us distant, and their personalities vague and unfamiliar."

As a corrective to this loss of balance, or perspective, one requires to keep at one's side books such as Taine's *English Literature*; but the work of the great Frenchman is practically the only one of its kind, and it deals only with the literature of a single nation.

"The modern man has no insular wish to ignore the lands which have produced a Victor Hugo and a Balzac, a Goethe and a Heine, a Tolstoi and a Tourgeniev, an Ibsen and a Björnson; and, on the other hand, even if he possess (possessed?) . . . histories of the literature of these other lands . . . the collection would be so extensive that we should spend all our time in reading of men of genius, and never their work itself. It is clear that a single compact work, which would treat with an authority and charm, of the literature and writers of all races and all times, would be an inestimable boon to a man who wishes to feel himself well read. No such single work as this exists by itself; yet it is part of the marvellously varied character of the *Encyclopædia Britannica* that it should comprise just such a history of literature as has been here outlined."

A 'History of Literature,' such as is suggested in the above quotation, will be looked for in vain in the *Encyclopædia Britannica* (this title, 'blessed' though it be, must really be contracted: it is so long; and 'it does come so often.') But the literature of many countries is fully treated of, under the names of the countries or nations which have produced it, in separate sections, or, sometimes, in independent articles. Thus, 'English Literature' is the title of an article by Mr. Thomas Arnold, M. A., which extends to 32 pages of the *Encyclopædia Britannica*. What is exclusively Scottish will be found in 'Scotland, Literature of,' concisely dealt with, in about three pages, by the late Dr. John Small, the Librarian of the University of Edinburgh. This account does not extend beyond the middle of the 17th Century, because, as Dr. Small said—"After the removal of the Scottish Court to London and the union of the Crowns in 1603, the old language began to be considered as a provincial dialect; and the writers subsequent to Drummond, who was the first Scottish poet that wrote well in English, take their places among British authors." As there is no heading, 'British Literature,' and the work of Scottish writers since Drummond's time has to be looked for in 'English Literature,' there seems here distinctly a Scottish grievance. Perhaps it was to avoid giving offence in this way, and also because modern Scottish writers would hardly like it to be said that they could not write English, that the title 'English Literature' was adopted, and Mr. Arnold's article was given as an independent one, and not merely as a section of the article 'England,' as French Literature is treated of in Part IV of the article 'France.' Irish Literature does not appear to be recognized at all: it is not treated of under 'Ireland,' and 'Irish Moss' is the only article beginning with the word 'Irish.' Other contributions to English Literature are by such masters of the language as Matthew Arnold, Sir Walter Besant—"an historian and a critic" as well as a novelist. Lord Macaulay, Mrs. Humphrey Ward, John Addington Symonds, Edmund Gosse, W. E. Henley, Robert Louis Stevenson, Theodore Watts-Dunton, Swinburne, Dr. Garnett, and Sidney Colvin, of the last named of whom it is said:—

"Among English writers upon Art there are few who have evinced the combination of sanity and stimulative quality" (?) "in the same degree as has the present keeper of Prints and Drawings of the British Museum; and with the possible exception of Ruskin, there are few better known. He came to the Slade Professorship of Art, Cambridge, with a wide and scholarly training, and continued to occupy that position until 1885. For the greater part of this period he was likewise Director of the Fitz William Museum at Cambridge. He has held his present post at the British Museum since 1884. For the *Encyclopædia Britannica* he has written a notable number of critical articles upon Art and the fine Arts, and upon Botticelli, Dürer, Flaxman, Leonardo, Michelangelo, and others."



Other contributors under the head of English Literature of Articles and Essays, critical and historical, are Walter Herries Pollock, Oscar Browning, and Professor Minto. Edmund Gosse; the author of a *History of Modern English Literature*, and 'Eighteenth Century Literature,' and many other works, contributed to the *Encyclopædia Britannica*, historical accounts of the literatures of Norway, Sweden, Denmark and Holland, and biographical and critical studies on Cowley, Holberg, Olen-schlager, and others. Some twenty years ago appeared Mr. Gosse's volume of *Northern Studies*, in which he introduced to English readers the names of Ibsen, Björnson, Brandes, and Kirkegard.

The *Literature of France* is dealt with in the *Encyclopædia Britannica* by Mr. George Saintsbury, now Professor of English Literature in the University of Edinburgh, in a treatise of 46 pages forming as already mentioned, Part IV of the article 'France.' Professor Saintsbury's other contributions include "a long line of critical studies in the lives of Voltaire, Rousseau, Pascal, Montaigne, Lamartine and many others."

"The works which Professor Saintsbury has written upon English and French Literature alone comprise an exhaustive study of the literary activity of these two peoples. Professor Saintsbury's latest and perhaps most ambitious work is his *History of Nineteenth Century Literature*, in which he endeavours to present, within a single volume, a picture of the literary side of our wonderful century."

"The *Encyclopædia Britannica* is acknowledged to be the finest and most authoritative work of reference in the English language; it is rather a less recognised quality which is revealed by these citations—that it contains some of the most brilliant work of the foremost critics and essayists of this generation. There are simply scores of monographs, of similar excellence to those noted, within its voluminous pages; and did the *Encyclopædia* have nothing else to recommend it, these would be alone sufficient to stamp it as one of the most remarkable productions of the century."

The *Encyclopædia Britannica* may be said to be also a LIBRARY OF MEDICINE in all its branches, and of the cognate sciences. Dr. Charles Mercier, in the introduction to his *Sanity and Insanity*, tells how a corn merchant who consulted him about one of his daughters spoke with scorn of another practitioner who had treated her with 'bromide;' and he thought it a fact of remarkable significance that such a man should have sufficient knowledge to form his own opinion as to the propriety of administering that drug in that case. "Thirty years ago such a remark would have been impossible. Now-a-days society has adopted the opinion of Melancthon—that it is disgraceful for a man not to know the structure and composition of his own body." This brings to mind the story of the not well educated mother, whose daughter, being rather proud of the smattering of physiology she was acquiring at the Board School, had been trying to impart it to the family at home, writing to the teacher—"Please Mr.——, don't

let Mary Anne learn any more about her inside: it's not a bit of use, and beside it's rude." Popular expositions of medicine which are both accurate and well written, and free from any sort of nonsense, are said to be unfortunately rare.

"Moreover," says a pamphlet about the 'Reprint,' "if one were to go about selecting a good Library of Medicine, taking only a single leading work in each of the various branches in Physiology and Pathology, and Surgery, and Anatomy, and Histology, and the rest—he would soon have books enough to employ all his leisure time for the next ten years. Professor Foster's standard *Physiology* is in five large volumes; Quain's *Anatomy* is even more voluminous, and it is seldom that any standard work is confined to a single volume. . . . It may seem strange to say that the *Encyclopædia Britannica* comprises in various special treatises upon medicine precisely such a popular library as an intelligent man or woman, 'ashamed not to know something of the structure and composition of their own bodies,' wishes to acquire. But consider for a moment who are the men who have written the medical sections of the *Encyclopædia Britannica*, and consider, moreover, what these sections cover. Professor Foster's *Text book of Physiology* is the recognised standard among English-speaking people. For the *Encyclopædia Britannica* Professor Foster has condensed his five large volumes into a terse, vigorous treatise, which contains practically everything which the average man may wish to know of Physiology."

It should be explained, however, that of the 56 pages of the article '*Physiology*' Professor Foster contributed only Part I.—'A General View'—16 pages; while Part II.—'The Nervous System'—20 pages, is by Dr. J. G. McKendrick, Professor of the Institutes of Medicine in the University of Glasgow, and Part III.—'The Physiology of Plants,' extending to 19 pages, was written by Dr. Sydney Howard Vines, Sherardian, Professor of Botany, Oxford. Sir William Turner, Editor of the Journal of Anatomy and Physiology, wrote the article upon Anatomy, and Professor John Chiene dealt with Surgery. Sir John Batty Tuke, "amongst the foremost of English 'alienists,' wrote upon his special topics of Insanity, Hysteria, and Aphasia, and also the article 'Hippocrates.'" Professor Schäfer, "whose text-book on Histology is in use everywhere," dealt with his subject; Professor Geddes wrote upon the important topics of Morphology, Sex, and Reproduction; Dr. Creighton upon Pathology and Medicine, and Dr. Stevenson, upon Medical Jurisprudence; and the list might be extended. It is claimed for the *Encyclopædia Britannica* that each of these articles is written by a foremost living specialist in each particular field.

"To the physician himself the *Encyclopædia* is of the most varied interest. Now-a-days a general acquaintance with the sciences, and especially with Chemistry and Physics, and Botany, and comparative Zoology, has become a practical necessity to the well-informed medical man. In the various scientific treatises of the *Encyclopædia* is to be found just that fine balance between essential formation and exposition of theory which marks the work of masters. Considering the vast range of Natural Science at the present day, this compact and graphic style of treatment is of incalculable value."

A LIBRARY of PHILOSOPHY and PSYCHOLOGY the *Encyclopædia Britannica* claims to be; but these are not subjects which



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"Nevertheless, one does like to know something of Philosophy and its history, and its masters; and nowhere can the same amount of interesting information be found as in the pages of the *Encyclopædia Britannica*. All of its philosophical articles have been written by the foremost among living students of philosophy, are notable for the fact that they are concise and compact without being dull and dry. They are for the most part brief, and one can spend evening after evening, taking up one treatise after another, and in this pleasant way acquire a clear and vivid idea of all that has been thought and written from the time of the Greeks to the present day."

Among the writers on Philosophy, for the Ninth Edition of the *Encyclopædia Britannica* were Principal Caird—on Metaphysics and Cartesianism, and Professor Henry Sidgwick—the occupant of the Chair of Moral Philosophy (or ethics) in the University of Cambridge, than whom "there is no living writer who holds a higher position in this field," and who is "hardly less known in the field of Economics and Political Science. . . . Professor Sidgwick's wife, the sister of the Right Hon'ble Arthur Balfour, and Principal of Newnham College, Cambridge, is likewise a contributor to the *Encyclopædia Britannica*, dealing with the subject of spiritualism." Other writers on such subjects were Professor James Sully—on Evolution (in Philosophy), and Dreams; Alexander Bain—on James Mill; Professor W. Wallace—on Schopenhauer and Descartes; Professor Robert Adamson—on Hume and Kant; James Ward—on Psychology; Professor Andrew Seth—on Philosophy, and Weber's Law; Professor A. C. Fraser—on Locke, and Professor G. Croom Robertson—on Hobbes, and Association.

Though there exist a vast number of treatises upon ECONOMICS, such as the works of Adam Smith, Malthus, Ricardo, John Stuart Mill, and others, which no student in this field can afford to neglect; and though every intelligent and active-minded man wishes to know something of the history of the subject, and what valuable work has already been done, it is open to question whether it is actually worth while to plough through the endless literature of the 'dismal science.'

"Alike for the student and the average man of affairs, therefore, the articles comprised in the *Encyclopædia Britannica* are of peculiar value. . . . They give all that is worth knowing of Political Economy, and they are, moreover, compact and concise. . . . These articles have been written by the foremost students of Political Economy in this generation. . . . Thus we find Professor Thorold Rogers writing upon Finance and Free Trade; Professor Bastable upon Money; Mrs. Fawcett upon Communism; Professor J. Shield Nicholson upon Wages, Wealth, and Taxation; The Right Hon'ble Leonard Courtney upon Banking, and Professor Minto upon John Stuart Mill,—to name only a few. There are valuable monographs upon the Corn Laws, Exchange, Socialism, National Debt, the Oneida Community, Famines, Trade Unions and the like, and interesting biographical

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studies upon all the great names of the science—Adam Smith, Malthus, Robert Owen, Proudhon, Bentham, and others.”

The articles in the *Encyclopædica Britannica* on THEOLOGY and the SCIENCE of RELIGIONS are said to embrace every topic of interest in that field, which includes also religious biography and religious history. They present to the layman rapid reviews of each topic ; while in detail “ they provide the clergyman with a whole arsenal of facts, speculations, illustrations, and new methods of study.

“ Religions, like organisms, have a history, and, therefore, this is to be studied first, so far as it can be known,—how they rise and spread, grow and fade away ; how far they are the creations of individual genius, and how far of the genius of nations and communities ; what is their mutual historical relation, that is, if one of them sprang from another, or if the whole group are to be derived from a common parent ; lastly, what place is to be assigned to each of these groups or single religions in the universal history of religions.”

This quotation from the article in the *Encyclopædia* of Professor C. P. Tiele, of the University of Leyden, author of “*Manuel de l'Histoire des Religions*,” indicates the thought which pervades it. All the articles under this head have been written by recognised authorities and represent first-hand knowledge. Professor Edward Burnett Tylor's theory of Animism is carefully presented. Professor Max Müller has himself condensed his views upon the Aryan race, its languages, and its religions, for the *Encyclopædia Britannica*. Professor Rhys Davids writes on Buddhism, Professor Eggeling on Brahmanism, Professor Legge on Confucius, Professor Noldeke on the Koran, Professor Wellhausen on Muhammad, as well as on Moses and the Pentateuch, Professor Geldner on the Zend-Avesta and on Zoroaster. Professor Flint writes on Theology and Theism ; and Canon Cheyne, among other things, on the ancient Cosmogonies. Professor Robertson Smith, who latterly was associated with Dr. Baynes in the editorship of the *Encyclopædia Britannica*, contributed a notable series of essays, of which those on Hebrew Literature and the idea of a Messiah may be cited. Professor Adolph Harnack wrote on the Revelation of St. John, and the early Church Fathers. Archdeacon Farrar, whose study on the Life of Christ ranks among the most popular achievements in Messianic biography, gave, as it were, the essence, the vital substance of it, in some seventeen pages, for the *Encyclopædia Britannica* in his essay—‘Jesus Christ.’

“ Then there is a long line of biographical studies which include all the great names of Church History. Thus Dean Bradley writes upon Arthur Penrhyn Stanley, Principal Shairp upon Keble, Dr. Lindsay Alexander upon Colvin, Dr. McCrie upon John Knox, and Professor Adamson upon Bishop Butler and his Philosophy. There is also full treatment of historical subjects, of which Canon Perry's



survey of the Church of England in history may be taken as a type. "Embracing every type of interest in the whole field of theology and the science of religious history, the articles in the *Encyclopædia Britannica* are simply a mine of fresh information and original thought."

A LIBRARY of LAW also, the *Encyclopædia Britannica* claims to be. The articles upon legal subjects have all been written, it is said, by authorities of recognised standing, of whom it suffices to name such well-known men as Sir Frederick Pollock, Corpus Professor of Jurisprudence at Oxford, who delivered the "Tagore" Lectures in Calcutta in 1894; Mr. Edmund Robertson, M.P., Professor Holland, and Sir Travers Twiss. "They tell in a concise and attractive way everything which is of practical value for the man who does not propose to follow the legal profession as a life-work." And the use of the work is recommended to lawyers themselves, as a place where they can find compact yet exhaustive information on every conceivable subject they require to deal with in the exercise of their profession.

To GEOGRAPHY ample space is given in the *Encyclopædia Britannica*. Sir Archibald Geikie contributed a treatise, which extend to 37 pages, divided into three sections, the first entitled 'Progress of Discovery'—dealing with the history of the subject; the second—'Mathematical Geography,' and the third—"Physical Geography.' The first section, certainly, will have to be revised in the forthcoming Supplement, and it is to be hoped Sir Archibald has undertaken to do so. The progress of geographical discovery and exploration during the last quarter of a century has been marvellous; and judging by the number of members the Royal Geographical Society of London now consists of—about 30,000—the popularity of the subject is greater than ever. Other articles under this head are 'Historical Geography' and 'Polar Regions,' by Sir Clements Markham; Russia and Siberia (geography) by Prince Krapotkine; 'Atlantic Ocean,' and 'Indian Ocean,' by Dr. Wm. B. Carpenter; 'Figure of the Earth' and 'Geodesy' by Sir A. R. Clarke; 'India' and 'Delhi' by Sir W. W. Hunter; and 'Himalaya' by Sir Richard Strachey,—a complete treatise which covers 16 pages of the *Encyclopædia Britannica*, and with the help of a sketch map, showing the connexion between the Himalaya Mountains and the Thibetan table-land, and their relation to the adjacent plains and mountains, gives a lucid account of the place the range occupies in Asia—between the Central Asian plain, or plateau to the north and the Indian region to the south—and of its physical geography, geology, meteorology and climate, scenery, and natural history. Sir Richard, more than fifty years ago, as an officer of the East India Company's Engineers, explored

and surveyed in the Himalaya, and during perhaps thirty years thereafter he kept touch with the range: he was, therefore, peculiarly fitted for the task of describing it, and he did so with a loving hand. A figure in the article shows sections of the Alps and the Himalaya drawn to the same scale, and, better perhaps than any description could, gives an idea of the relative magnitude of these two ranges of mountains. The section of the Alps, from Switzerland to Italy, measures about 120 miles: that across the Himalaya, from the plain of India to the plain of Central Asia, measures about 400 miles; and the watershed between India and the Thibetan table-land is 100 miles to the north of the former region. Many of the peaks of the Himalaya are 10,000 feet higher than the highest point in the Alps, and one or two of them are nearly twice as high.

Hardly a day passes without mention in the newspaper and periodical press of some new journey or exploration having been completed or undertaken in some part of the Globe, or some book having been published which gives the result of such enterprise; and very frequently the travellers or explorers are trained observers, who, besides describing what they see and inquire into, accumulate, in their physical and astronomical observations and traverses, data which they lay down in route-maps, and from which professional geographers afterwards draw maps which will fit into the maps of the surrounding countries or districts, and thus give materials for a revised map of a country, or even of a continent. The maps in the Ninth Edition of the *Encyclopædia Britannica*, being the work of perhaps the foremost geographers in Great Britain, W. and A. K. Johnston, of Edinburgh, were doubtless complete and correct up to the date of publication; but Keith Johnston's famous Atlases, as well as those of other geographers, British and Foreign, have frequently, during the last quarter of a century, required revision by the light thrown on the dark places of the earth by the results of successive explorations—sometimes made under the protection of military expeditions, or following on them,—sometimes undertaken by private enterprise; and the maps in the *Encyclopædia Britannica* of Central Asia, Africa—in all its quarters, the northern parts of British North America, the North Polar Regions, and the Western and Central parts of Australia—not to speak of smaller parts of the earth's surface—will require to be revised, and filled in up to date.

No one who has made use of the *Encyclopædia Britannica* or even glanced at its pages, can have failed to see the numerous and beautifully drawn maps of "all the countries of the world which are to be found, bound up in the accounts of



the respective countries, and not as in the first two editions collected together in the article 'Geography.' Besides these general maps on a small scale there are to be found maps on larger scales: notably, of all the counties of England, and of all the States comprised in the United States of America; but for some reason—good, doubtless, from the point of view of the proprietors of the *Encyclopædia Britannica*, but annoying to and inexplicable by patriotic Scotsmen and Irishmen—there is not a map of any county of either Scotland or Ireland. Surely Lanarkshire, or Co. Cork, is as important from any point of view as is Leicester or Rutland, which have between them a whole-page map. Such defects in the work as these are discoverable only as the necessity for reference to maps occurs. Were all the maps collected into one Atlas, as was done in the first two editions of the *Encyclopædia Britannica*, they would be more in evidence; but it need not, therefore, be said that the plan of the work is in this respect wrong, for successive editors have adhered to it. There are small plans, interspersed in the text, of most of the important towns in the world, as well as other geographical illustrations.

That it is a LIBRARY OF THE FINE ARTS, is a very prominent feature of the *Encyclopædia Britannica*. The five principal, or greater, 'Fine Arts' are by common consent, says Mr. Sydney Colvin, who contributes 'The Fine Arts' and other articles under this head, Architecture, Sculpture, Painting, Music, and Poetry.

"It is possible in thought," Mr. Colvin says, "to group these five arts in as many different orders as there are among them different kinds of relation or affinity . . . . The relation of progressive complexity or comprehensiveness between the five arts, is the relation upon which an influential thinker of recent times, Auguste Conte, has fixed his attention, and it yields, in his judgment, the following order:—Architecture—lowest in complexity . . . . Sculpture next; Painting third; then Music; and Poetry highest, as the most complex or comprehensive art of all, both in its own special effects and its resources for ideally calling up the effects of all the other arts, as well as all the phenomena of nature and experiences of life. A similar grouping was adopted—though from the consideration of a wholly different set of relations—by Hegel."

Dr Herman Lotze, 'one of the acutest of recent critics of æsthetic systems,' grouped the Fine Arts on a consideration of the relative degrees of freedom or independence they enjoy—their freedom that is, from the necessity of either imitating given facts of nature, or ministering, as part of their task, to given practical uses.

"In this grouping, instead of the order—architecture, sculpture, painting, music, poetry—music will come first, because it has neither to imitate any natural facts, nor to serve any practical end; architecture next, because though it is tied to useful ends and material conditions, yet it is freed from the task of imitation, and pleases the eye in its degree, by pure form, light and shade, and the rest, as music pleases the ear by pure sound; then, as arts tied to the task of imitation, sculpture, painting, and poetry, taken in

progressive order according to the progressing comprehensiveness of their several resources."

It is obvious that the changes might be rung, in classifying the five arts very differently by looking upon the subject from different points of view,—an archæological and anthropological point, for one, in which an inquirer would trace the 'Fine Arts' back to their dawn in the earliest times. But, again, the Fine Arts might be classified primarily according, *first* as they are the development of natural gifts, which not all men are possessed of, and *secondly*, as they are accretions to natural gifts by imitation, practice and training. It is said that a poet is born, not made; but this seems much more true of a delineator, or limner, one who is born with the power of seeing anything correctly in its varied aspects, and of depicting it graphically in some medium, and also with the power of mentally conceiving the form and appearance of anything, or any scene or situation, and being able to draw it 'out of his own head,' as a child says, so that another person even though himself incapable of delineation, shall be able to recognise what is meant.

So also with *Music*. The man that hath not music in himself is proverbially fit for all that is bad. A musician cannot be made; he must be born with music in him—though by training, and study, and practice, the 'ear of one who cannot think music can be improved to the extent even that he may be able to take a part with others, or learn a livelihood as an executant. And thus Music comes also partly under the second of the two categories suggested above. But in the case of a born musician, Music is a "sense," rather than an 'art.' In 'Fragments of an Autobiography,' by Mr. Felix Moscheles, a recently published book, there is much about his father, the celebrated musician and pianist, and about Mendelssohn, with whom old Mr. Moscheles used to improvise at the piano. They would sit down together, and one would begin to play. "The subject started, it was caught up as if it were a shuttlecock. Now one of the players would seem to toss it up on high or to keep it balanced in mid-octaves with delicate touch. Then the other would take it in hand, start it on classical lines, and develop it with profound erudition until, perhaps, the two joining together in new and brilliant forms would triumphantly carry it off to other spheres of sound. Four hands there might be, but only one soul—so it seemed as they would catch with lightning speed at each other's ideas, each trying to introduce subjects from the works of the other."

It was once the happiness of the present writer to be associated long ago, during the preparation of a project for a



railway in India, with one who was a born musician, as well as an accomplished organist; and when within touch of an instrument—organ, harmonium, or piano—it was a treat to hear him improvise. Give him two or three bars, containing just a definite musical phrase, and he would catch hold of it, play it in different keys, and with variations, and finally treat it in fugal form—continuing for perhaps half an hour without a break. In camp, in the absence of any instrument, if he saw verses he fancied, he would take any scrap of paper at hand, music-ruled or plain, and scribble down music to suit them, the result often being a beautiful solo, or a sweet and scholarly part song. Thus in one “cold weather,” this born musician at spare moments, and on wet days in camp, composed a long and elaborate Cantata to the words of Pope’s “Messiah,” with even, if memory rightly serves, eight-part harmony in it, and an accompaniment for the organ which required only the aid, afterwards, of a musician versed in arranging music for an orchestra to shape into a complete work. As the present writer knows, the ‘musical sense’ is sometimes active in sleep, though dormant, and, according to one’s experience, almost non-existent in waking existence.

The term ‘*Painting*’ seems misleading and therefore objectionable, as commonly used, and does not discriminate between what is a ‘Fine Art’ and what is merely industrial, however skilfully it may be practised. ‘Drawing’ is the natural foundation of this Fine Art;—if a man cannot ‘draw,’ *i.e.*, delineate, in black or white, or in monochrome, and indicate in some way the outlines and relative positions of the parts of his subject, neither can he paint, in the artistic sense. A painting is but a coloured drawing, in which the spaces enclosed by outlines are filled in with colours and shades of colouring to show the light and shade the draughtsman desires to represent. A skilful painter may draw his outlines and filling in at once, without a preliminary sketch, but it is drawing all the same. ‘*Sculpture*’ is but a form of ‘drawing’ in which some object or scene the artist sees or imagines is realised in the solid form by the use of a plastic substance which he can mould with his hands into shape; it may be said to be drawing in three dimensions. ‘*Architecture*’ seems to have the least claim of the five to be called a fine art, based as it is on a knowledge of the nature and strength of materials, on the principles of engineering, and experience of human wants. Perhaps the ordinary conception of the term ‘architecture’ is of merely the picture shown in the ‘elevations’ of a building, and no doubt a born draughtsman or artist will design a prettier and more eye-satisfying elevation, or even an interior, than will an engineer who has not the artistic sense;

but even an artist by nature can qualify as an architect only after he has thoroughly mastered mathematical drawing and the practical part of engineering and building.

"*Poetry*" seems, to some people who are not poets, to be merely laboured prose, which they write all their lives without labour, but put into a more or less formal shape; but probably it is the possession of the musical faculty that enables the best of those who give their attention to this form of composition to express themselves in a form that gives so much pleasure to some people, but which to others seems a mere waste of time. A poet surely does not think in rhythm; but after he has shaped his thoughts in prose he has to put them into some shape which can be called poetry. A man who has never a written line of it may have thought more poetry than many so called a poet has written. Poetry may perhaps be said to be the faculty, natural or acquired, of putting into formal and studied shape the thoughts that arise within one often without form and void, filling one with pleasure—unuttered because, from want of time and study, unutterable. Many people would appreciate good poetry more if it were written in prose. If there is anything to be said that is worth writing or reading, why should it not be written in 'plain English?' But then if it were, what would become of the critics and biographers who deify or idolise the poets, and to some extent live upon them, like parasites?

In treating of the Fine Arts, and their relative places and importance, one has to consider the enumeration and classification of the lesser or subordinate fine arts, all of which require for their successful practice certain mental qualities. *Acting*, "an art auxiliary to poetry, but quite different in kind." (surely it is much auxiliary to prose?); *dancing*, an art not auxiliary but subordinate to music, from which in kind it differs no less; *eloquence* in all its kinds, so far as it is studied and not merely spontaneous; embroidery and the weaving of patterns, pottery, glass-making, goldsmiths' work and jewellery, joiner's work, and a score of dexterities. "To decide whether any given one of these has a right to the title of Fine Art, and if so, to which of the greater fine arts it should be thought of as appended and subordinate, or between which two of them intermediate, is often no easy task.

Under the head—'Fine Arts' in the *Encyclopædia Britannica*, the treatise of 94 pages, including index and glossary, on *Architecture*, which though attributed in the advertisements of the 'Reprint' to Professor Middleton of Cambridge, bears the initials of T. Hayter Lewis, late Professor of Architecture University College, London, and George Edmond Street, R. A.' author of 'The Gothic Architecture of Spain.' This article is



perhaps the most profusely illustrated of any article in the *Encyclopædia Britannica*, there being 18 Plates, which give, besides pictures of some of the most famous buildings in different parts of the world, details illustrative of the different styles of architecture, and examples of the various kinds of ornament employed in them. The glossary of architectural terms (especially classical and mediæval) extends to over 16 pages of small print, and, containing as it does detailed descriptions and references to the examples to be found in many buildings, is itself a valuable work of reference.

Other writers on the pictorial Five Arts were the late William Morris—on Mural Decorations. Sir George Reid, President, since 1891, of the Royal Scottish Academy, who contributed an expanded survey of the history of painting; Prof. Hymans of Brussels—on Rubens and Vandyck; Dr. A. S. Murray upon Etrurian Art and upon Phidias; William Rosetti upon Murill, and Titian, and others; P. G. Hamerton upon Engraving and Drawing; Sir Rutherford Alcock upon Japanese Art; Austin Dobson upon Hogarth, and J. F. White on Rembrandt and Velasquez.

Of *Music* Sir George Macfarren contributed—'History of Music,' Professor R. H. M. Bosanquet—'The Science of Music,' Dr. Francis Hueffer—'Bach' and 'Beethoven,' Mr. Sidney Colvin—'Bellini,' and W. S. Rockstro—'Mozart' and 'Wagner.'

On the *Drama*, Professor Baynes wrote 'Shakespeare,' Professor Saintsbury—'Corneille' and 'Voltaire,' Mr. Andrew Lang—'Molière,' Professor A. W. Ward—'Drama,' and Mr. James Sime—'Lessing' and 'Schiller.'

*Biography* is a leading feature of the *Encyclopædia*. 'A typical dictionary of biography is worthless, except as a reference for dates;' while such a work as the *National Dictionary of Biography*, which was begun by Mr. Leslie Stephen and is now approaching completion under the able editorship of Mr. Sidney Lee, is beyond the reach of most buyers of books. This monumental work has now attained to its fifty-fourth volume. As it deals only with Englishmen—born and naturalised (and Scottish and Irishmen, surely?). "A dictionary of world-biography on a similar scale would fill hundreds upon hundreds of volumes."

"There is only one work in the English language which comprises such a library of biography as laymen and women want to possess. That is the *Encyclopædia Britannica*. For it the greatest Englishmen of this generation have written, men of the type of Macaulay, and Matthew Arnold, and John Morley, and James Bryce, and Professor Seeley, and the poet Swinburne, and Archdeacon Farrar, and Clerk-Maxwell, and Dean Merivale, and Goldwin Smith. Each of these writers has contributed one or more of the notable biographies included in the *Encyclopædia Britannica*; and there are hundreds of others of like excellence and interest."

So far, the 'literature'—advertisements and pamphlets—issued from *The Times* office in booming the 'Reprint' has been taken as a guide in noticing the writers and men of Science who contributed to the Ninth Edition of the *Encyclopædia Britannica*, and the articles they wrote; but as, somewhat unaccountably, public attention has not been called in that way to the articles under a few other general heads, these must be sought for by a glance through the different volumes. The titles of about three hundred and fifty of the more important of these have been jotted down, and the names of the writers ascertained by looking up the initials attached to them in the list of contributors given at the end of the Index volume. It is true that, in one announcement, 'Curious Beliefs, Customs and Superstitions' were mentioned as one head, 'Sports and Pastimes' as another, 'Applied Science and Mechanics' as a third, and 'Practical Information' as a fourth; but no writers or articles were referred to as coming under them. And as many articles have a scientific as well as a practical side, classification and selection for notice would be rather troublesome. But time will not admit of any attempt to classify the few articles that can now be noticed, or to group them under the names of the writers. Alphabetical order will therefore be followed, as in the *Encyclopædia* itself. Also any notice of the first two of the heads just mentioned must be omitted.

*Aeronautics* is the title of a treatise of 22 pages \* which is illustrated by a plate containing figures of some of the early balloons and parachutes, and by smaller illustrations in the text. The author is Mr. James Glaisher, F. R. S., who, during the years 1862-1866, made no less than 22 ascents for the purpose of taking meteorological and other scientific observations. Mr. Glaisher's ascents were made in balloons directed by professional aeronauts, such as Mr. Coxwell, and his attention was thus not generally distracted from his instruments by having to share in the management of the balloon. The observations thus made were very numerous, and they are to be found recorded in the reports of the British Association for the Advancement of Science, under whose auspices the ascents were made; but many interesting particulars are given in the article under notice. In one ascent, made on 5th September, 1862, Mr. Glaisher continued observing and recording until 29,000 feet (the height of the highest mountain in the Globe) was reached, and from the rarity of the atmosphere and the low temperature, he then became insensible for some minutes, during which period it was calculated, from the recorded rates

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\* It may be here be mentioned that each page of the *Encyclopædia Britannica* is in double column, and contains about 27 times the number of words to be found in one page of the *Calcutta Review*.



of ascent and descent before and after the period of unconsciousness, that the balloon reached the height of 37,000 feet. Mr. Coxwell also nearly lost consciousness, and his hands were frozen, so that, in order to descend, he had to open the valve by seizing the rope with his teeth. Besides giving an account of early experiments, resulting in the invention of the balloon, and of remarkable ascents by celebrated aeronauts who were not men of science, Mr. Glaisher's article tells of scientific ascents made before his time. He deals with the history of parachutes from the time of Blanchard in 1785 to that of Cocking and Hampton in 1837-39, and then notices flying machines. The theory of the equilibrium and motion of a balloon is then expounded and mathematically investigated. This article certainly justifies the boast of the *Encyclopædia Britannica* that it enlists in its service the best authorities that are procurable. The account of parachutes will want revising, and Military ballooning also will want expanded treatment, in the promised Supplement to the *Encyclopædia*.

'*Agriculture*' is the title of an important treatise, which occupies no less than 125 pages of the *Encyclopædia*, and is divided into twenty chapters. It is illustrated by 8 plates of farm buildings, and various breeds of cattle and sheep, besides numerous wood cuts in the text. The writer was Mr. William Thomas Thornton, the author of "A Plea for Peasant Proprietors." The length of this treatise precludes any epitome of its contents; but it may be said that it appears to include almost everything that is necessary for an agriculturist to know concerning the management of land, the growth of crops and the raising and fattening of stock.

In the space of twelve pages a very interesting account was given by Dr. Alexander Stuart Murray, of the British Museum, and Mr. John F. Bateman, F. R. S. then President of the institution of Civil Engineers, and Engineer-in-chief of the Manchester Water Works, of "*Aqueducts*, from early classical times down to the completion of the works for the supply of water from Loch Katrine to Glasgow, and to New York from the Croton Lake. This is illustrated by two plates, chiefly of the beautiful and celebrated remains of ancient structures, and also many small figures in the text. The treatise is limited to the conveyance of water in masonry or iron ducts. The storage and distribution of water are dealt with elsewhere by other writers.

'*Arboriculture*' deals with a very important subject under the head of industrial arts. The author was Dr. Hugh Cleghorn, who belonged to the Forest Department of the Government of India, and was the author of 'Forests and Gardens of South India.' After alluding to the forests of ancient times and

the state and progress of Forestry in France, Germany, and Britain from the 15th Century, and what was being done in British India at the time he wrote, Dr. Cleghorn gave a general view of the trees cultivated in Britain, and of the timber they yield, and then treated successively of 'Trees suited for particular purposes,' 'Roadside Trees and Hedges,' 'Coppice' Ornamental trees and Shrubs, 'Propagation and Culture in the Nursery,' the Formation and Management of Plantations; and for fuller information he referred to various standard works on the subject of Arboriculture and Forestry, including 'The Forester' by James Brown, some French and German books, 'The Transactions of the Scottish Arboricultural Society' 'The Forest Flora of Northern India,' by Drs. Stewart and Brandis, and some works on American trees.—Forestry and Forest Administration in India have made such strides since Dr. Cleghorn wrote that the subject as regards that region deserves more extended treatment in the supplement now under preparation,—though perhaps under a different letter of the alphabet.

Arch, Artillery, Assaying, Baking, Balance, Bee keeping, Bells, Bellows, and Blowing Machines, Blasting, Bleaching, Block-making' Book-binding, Brass-work, Breeding of domestic animals, Brewing, Bricks and Brick-making, are the subjects of articles at once interesting and useful; but like hundreds of others in the *Encyclopædia* they must be passed by with simple mention. Many of these articles are illustrated. 'Bridges' is a treatise of 57 pages, by the late Fleeming Jenkin, F. R. S., Professor of Engineering in the University of Edinburgh, a work which begins by dealing with the strength of materials, and then mathematically investigates the structure and strength of beams, suspension bridges, arches, frames compound structures and substructures, and then describes examples of every sort of design and construction,—the whole being profusely illustrated by mathematical and structural diagrams, and plates containing views of the examples, both architectural and perspective. This treatise was reprinted and published separately soon after it appeared in the *Encyclopædia*.

'Buildings' also, by Mr. Wyatt Papworth, Architect, is a complete treatise extending to 66 pages—which comprises 'General Principles of Construction,' and notices of the various trades and kinds of work involved in building—such as brickwork, paving and draining, masonry, carpentry, joinery, slater-work, plumber-work, plaster-work, house-painting and glazing, smith-work, and gasfitting. There were seven plates and numerous small illustrations.

'Calico Printing' is the subject of a short illustrated treatise



by Mr. James Paton, the Curator of the Glasgow Corporation's Galleries of Art, whose initials "I. Pa." are attached to numerous other articles on Industrial Arts and Industries, such as Baking, Bleaching, Carriages, Cutlery, Distillation, Textile Fibres, Flour-manufacture, Hosiery, Jute, Linen manufacture, Leather, Milk, Matches, Oils, Paraffin, Pigments, Pins, Preserved Food, Rope, Sewing Machines, Sugar, Tea, Tobacco, and Tobacco Pipes, Weaving, Wool, and Woollen manufactures.

'*Clocks*' is a treatise by that well-known authority Sir Edmund Beckett—now Lord Grimthorpe. It extends to 23 pages, and, with the help of many illustrations, gives an account of clocks of all sorts, and the details of their construction, from the 12th or 13th century, when the earliest true clocks were made, down to the time when the article was written. Lord Grimthorpe is the author of several learned books on clocks and bells; and he it was who designed the great clock and bells for the houses of Parliament at Westminster, and superintended their construction. Here, or hereabouts, in alphabetical order, come articles on Bronze, Button, Calculating Machine, Canals, Camera, Lucida, Cameo, Candles, Carpets, Carving, Catacombs, Charcoal, Cheese, Cofferdams, Coke, Mariners' Compass, Cookery, Copper, Cotton, Diving and the Diving Bell, Dockyards, Drawing, Dredge, and Dyeing.

'*Coal*' is an important treatise, of 36 pages, which includes the subject of mining for, or 'winning' Coal. The author is H. Bauerman, F. G. S., the author of 'Metallurgy of Iron,' who, if memory is correct, inspected and reported on the coal and iron fields of India for the Government. The physical properties and classification are first treated of, the geological sequence is given, and the British coal-fields are described in some detail, with help of a map—on which, by the way, are marked, in continuation of the axis of the coal-field of South Wales, across the South of England till they leave the coast at the East Neuk of Kent, the possible axis of underground coal measures, and the axis of carboniferous limestone and Devonian strata. This is of peculiar interest since boring and shaft-sinking have lately proved the existence of workable coal near Dover, though at a great depth. The map shows the exposed and concealed areas of the coal measures in Britain. The coal-fields of continental Europe also are described, and those of British India, China, Japan, Borneo, Australia, New Zealand, and America. The section, 'Coal-mining,' is illustrated by three plates, as well as by numerous diagrams; and Ventilation, Winding, Safety lamps, and Surface arrangements are treated of and illustrated. Lastly, the statistics of output and accidents are noticed, and a list is given of the more important works relating to Coal and Coal-mining.

In the article '*England*' will be found, in Section IV, much concerning the produce of Minerals and Metals in the limited Kingdom; in Section V are given the statistics of Textile manufactures and Fisheries; in Section VI will be found statistics showing the development and progress of British Shipping; in Section VII Railways, Canals, and Roads are dealt with; and in Section VIII the statistics are given of the Post and Telegraph Department, which is so largely a mechanical industry and art. Under the letter 'E' come also such articles as Electro-metallurgy, Engraving, and Explosives. Under F we find—Fermentation, Files, Filters, Fire, Fire-clay and Fire-bricks, Flax, Flying Machines, Floor Cloth, Forests, Fortification, Founding, Fresco, Fuel, Fur, Furnaces, and Furniture.

'*Fortification*' is a treatise of 48 pages, by Col. Sir Charles H. Nugent, R.E., and the late Major-General Portlock, R.E.,—illustrated with 9 plates and many cuts in the text, which seems very complete, though perhaps somewhat wanting in modern instances. *Gas*, and *Gas-lighting*, by Mr. James Paton, is fully illustrated as regards the production and purification of Coal Gas, and there is a section regarding other sources of production; but under 'burners' nothing is to be found as to the incandescent system, which now tends, in some form or other, to become universal. '*Glass*' contains a learned history of the art, and detailed descriptions of the various processes for the manufacture of the different kinds of glass in use, with plates and other illustrations of the furnaces and the tools used; and under the head of *Glass Painting* an interesting account is given of the history and manufacture of stained glass. '*Gold*,' including '*Gold-mining*,' and extraction from the ore, is a treatise which, owing to the development of the industry in recent times by discoveries of new alluvial deposits and gold-bearing strata in Africa, Australia and North-Eastern America, must need writing up to date. Gems, Gilding, Granite, Guano, Gum, Gun-making, Gunnery, Gunpowder, and Gutta Percha, are other articles under the letter 'G.'—'*Graduation*' or the Art of dividing straight scales, circular arcs, or whole circumferences into any required number of equal parts, which is the most important and difficult part of the work of the mathematical instrument maker, and is required in the construction of most physical, astronomical, nautical, and surveying instruments—is treated of by Mr. James Blyth, M.A., Professor of Natural Philosophy in Anderson's College, Glasgow. An illustration is given of the dividing engine made by William Simms in 1843, and still perhaps in use in the workshop of the celebrated firm of Troughton and Simms near London.

'*Harbours and Docks*' is the title of a concise treatise of



16 pages by Mr. Thomas Stevenson, C.E., the author of the work *Lighthouse construction and illumination*—which, with the help of five plates, and other illustrations, gives a resumé of the whole subject. 'Hair'—human and bestial, Hammer, Hand Tools, Harmonium, Heating, Herbarium, Honey and Honey Farming, 'Horse' and Horse breeding, Horsemanship, Hospitals, Hybridism, and Hygiene, are the subjects of other articles which come in this part of the alphabet.

'*Horticulture*' is the subject of a very complete treatise, which extends to 84 pages of the *Encyclopædia*—much of it in small print. It was written by the late Mr. Thomas Moore, F.L.S., who was Curator of the Royal Botanic Garden, Chelsea, and the author of various works on Ferns. Part I treats of the principles or Science of Horticulture; Part II of the practice of the Art, and this is illustrated very fully; Part III is about Garden Materials and appliances; Part IV is—'Garden Operations'; Part V is 'Flowers'—or rather 'Flowering Plants'; Part VI is 'Fruits'; Part VII 'Vegetables'; and Part VIII gives a Calendar of Garden Operations for Great Britain and for the United States of America, chiefly for the Latitude of New York.

Under the letter 'I' will be found a very important treatise on '*Iron and Steel*,' by Dr. Charles R. Alder Wright, F.R.S., of 81 pages, copiously illustrated by drawings of furnaces, apparatus, and machines. Dr. Wright divides his subject into nine general heads:—I, General Characters of Iron, and relationship to other elements; II, Natural Sources; III, Extraction of Iron from its ores; IV, Manufacture of Cast Iron; and Iron Smelting; V, Conversion of pig iron into malleable iron and steel by decarbonization processes; VII, Production of malleable iron and steel from the ore at one operation; VIII, Methods of steel production essentially involving combination of the preceding processes; IX, Physical qualities of Iron and Steel in their practical relationships; and X, Statistics of the iron trade. Other articles under 'I' and 'J' are Ink, Irrigation, Ivory and Vegetable Ivory, Jade, Japanning and Jewellery—illustrated by two beautiful plates of antique and Renaissance ornaments, and written by Mr. George Wallis, the keeper of the Art Collection, South Kensington Museum.

Under 'K' we find Kaolin, Kelp, Knots, under 'L,' Lac, Lace—by Mr. A. S. Cole, of the Art Division, South Kensington Museum, and illustrated by drawings of various kinds of Lace, and of a Lace Machine; Lacquer, Lamp Lapidary, Lard, Lathe, Lead, Lemon, Lifeboat, Lifts, Electric Lighting, Linoleum, Liqueurs, Lithography, Door-Locks, and Ship-Logs. '*Lighthouse*' is the title of a 15 page treatise by Mr. Thomas Stevenson, than whom no one better fitted to deal with the subject could have

been found. On one plate are shown elevations or sections of ten light-houses, drawn to the same scale, from Winstanley's on the Eddystone rock, of 1669, to Sir J. H. Douglas's New Eddystone, which was lit in 1882. Other illustrations show iron structures, and many lanterns and lamps. Under 'M' will be found Machine Tools, Magnetism, Maize, Malachite, Malt, Manganese, Manilla Hemp, Manometer, Manure, Map, Marble, Mercury, Metallurgy, Metal Work, Meteorology, Metronome, Micrometer, Microscope, Mineralogy, Mineral Waters, Mining, Mint, Mirror, Mohair, Mosaic, Mural Decoration, and Mushroom-culture.

Among the interesting treatises marked for notice is that on '*Typography*'—the Historical part of which is by Mr. J. H. Hessels, M.A., the author of '*Haarlem, the Birth-place of Printing* : ' this covers 16 pages. The rest of the article is by Mr. John Southward, and is occupied with the practical side of the subject : this covers 29 pages, mostly of small print, and is illustrated by many drawings of types, and apparatus, and machines of all sorts—from the simple 'Albion' and Minerva hand-presses ; which are now nearly superceded by 'Machines,' up to the large cylinder machines, such as the 'Bremner,' the 'Marioni,' the 'Walter,' and others, without the use of which, combined with the process of stereotyping several copies of the matter and placing them on separate machines, the enormous impressions now required of daily newspapers could not possibly be printed. The sub-headings of this part of the joint treatise are—Types : their material characteristics—including the composition of type-metal and the making of types ; and Type-setting, or Composing,—now often done by the aid of machines. Illustrated descriptions are given of the 'Fraser' composing and distributing machines, which were invented by one of the partners of the old Edinburgh firm of Neill and Company (now Neill and Company, Limited) who printed with a little assistance, the eight and ninth editions of the *Encyclopædia Britannica*,—10,000 pages of the ninth edition are said by Mr. Southward to have been set up by machinery—presumably by the 'Fraser' machine. This edition was first stereotyped, and afterwards, as the sale increased, electrotyped by the printers ; and it is believed that it is from these plates that the recent impression, for which *The Times* is responsible, has been printed. Mr. Southward also describes the processes of Stereotyping and Electrotyping ; substitutes for wood-engraving used in producing illustrations which are to be incorporated with printed text, and Colour-printing ; and he gives a sketch of the working of a large printing establishment.



## ' THE TIMES ' REPRINT.

Something more must be said about the enterprise mentioned at the outset of this article—the so-called *Times* Reprint of the 9th edition of the *Encyclopædia Britannica*. As just above hinted, when mentioning the treatise on Typography, this is not a reprint in the common acceptation of the word: it is merely a large impression thrown off continuously during a year, and sold at about half the price previously charged for the work. The project has met with a success which has shown publishers in the United Kingdom in general how business ought to be done.

The first impression of the Reprint was, in fact, subscribed twice over. It is understood that the impression first ordered by *The Times* was 5,000 copies; and that not long afterwards an urgent order was placed for 10,000 copies more: also that the printing and sale are still going on briskly. The reprint was first offered, in March 1898, at the price of £14 cloth, or, for £1-1 down, and thirteen guineas more payable by monthly instalments, but the second instalment was not asked for until the complete set had been delivered. The Publishers of the *Encyclopædia Britannica*, used to sell it for £37 the set, in cloth binding.

The Ninth Edition of the *Encyclopædia Britannica* was a success from the beginning, and during the last ten years it has been printed again and again, one volume being always on the press;

“but the printing orders have always been conservative. When the present Reprint was put on the press five thousand copies of each sheet were printed; the cost of one ‘make-ready’ was divided among five thousand sets of sheets. Contracts for the binding were made in the same large fashion. It was expected, and, as the result has shown, with reason, that almost all the purchasers would select the half-morocco binding, in which form the work is now sold for £18, or 18 guineas in monthly payments, as against £45, the former price. To bind 4,250 sets of 25 volumes each in half-morocco and full-morocco necessitates the purchase of goat skins in large quantities, and the larger the quantity, the more cheaply can the skins be bought. No contract for binding involving the use of so much leather has ever before been made.

“The whole process of producing this reprint is, indeed, an admirable exemplification of the advantage of manufacturing in vast quantities. About 85 per cent., of the orders thus far received have been orders for the half-morocco binding, so that the average price has been about £17-8s.—much nearer to the £18 price than to the £14 price for the cloth binding. The same proportion would have made the price, on the former scale, about £14-16s. For every thousand sets the public are, therefore, paying £17,400, as against the £43,800 they were paying at the former price,—a clear saving of £26,400 on every thousand, or £132,000 on the whole impression of 5,000 copies.”

As 15,000 sets are said to have been sold, the total saving, at the present rate, to the public on the purchase of the

Reprint, so far, would have been £660,000. But from last August the offer of the book at the original rate was withdrawn, and presently it was offered on the same conditions at £16 a set, a difference of one shilling in the pound; and in March last, one year after subscription was invited for the Reprint at £14, &c., the sale was stopped, and the Reprint is now advertised at £17, &c.,—"as it is the natural desire of the publishers" (Messrs. A. and C. Black, who it is understood, have been getting a substantial share of the profits of the Reprint) "that a more or less gradual return to the higher price should be effected." Towards the close of the year during which the Reprint was being 'boomed' the advertising became fast and furious, and the public were informed that it would be useless to wait for a cheaper price, or for a tenth edition, in expectation of which some people were said to be hesitating to buy the Reprint of the Ninth Edition. But that idea was said to be finally put out of court by a letter which was printed in *The Times* of March 4th, 1899, from the publishers, the Messrs. Black, in which they said—"We think it is only fair to the public to state definitely that no steps of the sort have been taken, and that, under our existing arrangement with *The Times*, we cannot commence taking any for many years to come. Simultaneously with the publication in other advertising mediums of this letter to *The Times*, there appeared an announcement that, by arrangement between the proprietors of *The Times* and Messrs. A. and C. Black, *The Times* was preparing a supplement to the Ninth Edition of the *Encyclopædia Britannica*.

"This Supplement," it was said, "will bring up to date every article in the Ninth Edition. It will contain biographies of such eminent men as Gladstone, Bismarck, Tennyson, Darwin and Pasteur, who have died since the Ninth Edition was published. Each of these biographies will be prepared by a writer especially qualified to deal with that particular subject. The world's history during the past twenty-five years will be exhaustively treated. Scientific progress will be accurately recorded. The new developments of Physics, especially in the fields of electricity and chemistry; the latest achievements in medicine and surgery; recent activity in literature and art; the whole story of the latter part of the 19th century will be fully treated.

"The Ninth Edition was published volume by volume. The subjects treated in the earlier volumes, those which fall under the first letters of the alphabet, are not, of course, as nearly up-to-date as those in the latter volumes. All the twenty-five volumes will, by the addition of this Supplement, be made as complete as if they had all appeared for the first time in 1899.

"The Supplement will be edited by Sir Donald Mackenzie Wallace, assisted by a competent staff, and by all the leading specialists on the different subjects to be treated. It will be supplied to purchasers of *The Times* Reprint of the *Encyclopædia Britannica* at a reduction of 25 per cent. from the price at which it will be sold to the general public. . . . No tenth edition can, under the contracts made



between *The Times* and Messrs. A. & C. Black, be published for many years to come. The Supplement will serve the purposes and meet the needs which might otherwise have created an early demand for a tenth edition, and it will achieve this result at infinitely less cost to the purchaser than would have been entailed by the issue of a tenth edition. . . . It is hoped that the publication of *The Times* Supplement will be completed before the end of the century."

The "new book-selling" is having imitators, one recent instance being the offer, by a well-known firm, of immediate delivery for one guinea down of a set of 'the 100 best novels,' selected by three eminent literary men, the total price of the set being £12 (writing from memory), payable by instalments, as in the case of *The Times Reprint*. And, just as this article is being finished, comes an announcement by *The Times* itself of an issue of *The Century Dictionary*, which is said to have cost as much as the *Encyclopædia Britannica*—£200,000, and to be "the largest, the handsomest, and the only complete English Dictionary published."...It consists of 8 massive 4to. volumes, enumerating some 225,000 terms, illustrating these with over 300,000 quotations, and providing in all over half-a-million distinct definitions." The price is to be from £13, or 13 guineas in deferred payments, up to £18 (or 18 guineas) for the full morocco binding. "These prices average a reduction of one-third from the publishers net price."

ART. XIV.—VASCO DA GAMA'S VOYAGE.

THE JOURNAL OF THE VOYAGE OF VASCO DA GAMA  
BY SEA TO INDIA IN THE YEAR 1498.<sup>n</sup>

(Concluded from April, 1899, No. 216.)

NOTE.

The literal translations of the Lists of Imports from Arabia into Calicut and of the price of spices at Alexandria are as under :—

IMPORTS INTO CALICUT.

*Copper.*

The farazella, which contains about thirty arrátees, is worth fifty fanoens, which make three cruzados.

*Bezoar Stone.*

Bezoar stone sells for its weight in silver.

*Knives.*

Knives are a fanam a piece.

*Rose-water.*

Rosewater is fifty fanoens the farazella.

*Alum.*

Alum is fifty fanoens the farazella.

*Camlet.*

Camlet (a finely woven woollen stuff) is seven cruzados the piece.

*Scarlet Cloth.*

Scarlet cloth sells for two cruzados the pequy, that is, three palms.

*Quicksilver.*

Quicksilver is ten cruzados the farazella.

Taking the farazella at thirty lbs. average and the cruzado at 2s. 3d., the prices of Imports into Calicut are as follows :—

*Copper*, per cwt., 25s. 2½d.

(The price of raw copper in England per cwt. was in 1576 74s. 6d.)

*Knives*, 1¾d. each.

(Fleshing knives were 3d. each, and kitchen knives were 9d. each in England in 1507.)

*Rose-water*, 2 1⁄10d. per lb.

The price in England, in 1536, was 3s. for six pints and two bottles.

*Alum*, per cwt., 25s. 2½d.

*Camlet*, per piece, 15s. 9d.



The price in England fell from 4s. 4d. and 4s. the yard in 1481 to 2s. 8d. in 1520. Black camlet cost 4s. the stick (yard) in 1466; other camlet was generally red.

*Scarlet cloth*, per yard, 5s.

In England, crimson "engrained" and green cloth cost 7s. 5d. to 8s. 6d. per yard in 1464, "if indeed these were woollen goods."

*Quicksilver*, per lb., 9d.

*Bezoar* was used as an antidote to poison.

The prices set down below are those at which spices are sold at Alexandria:—

Cinnamon	...	...	...	25 cruzados per quintal.
Cloves	...	...	...	20 fanoeus " "
Allspice	...	...	...	15 do. " "
Ginger	...	...	...	11 do. " "
(At Calicut a bachar of five quintals sells for 20 do.)				
Nutmegs	...	...	...	16 fanoens per quintal.
Wax	...	...	...	25 do. " "
Brazilwood	...	...	...	10 do. " "
Rhubarb	...	...	...	12 do. per arratel.
Musk	...	...	...	1 do. per metical.
Aloe wood	...	...	...	2 do. per arratel.
Benzoin	...	...	...	1 do. " "
Incense	...	...	...	2 do. per quintal.

(In Mecca, where it is grown, it is 2 fanoeus per bachar.)

#### PRICES OF SPICES AT LISBON.

According to Correia the prices current for spices at Lisbon, just before Vasco da Gama's return, were as under:—

Spice.		Per quintal.	fanoeus= Per lb.
Allspice	...	80.	3d.
Cinnamon	...	180.	3s. 2d.
Cloves	...	200.	3s. 6½d.
Ginger	...	120.	2s. 1½d.
Mace	...	300.	5s. 2½d.
Nutmegs	...	100.	1s. 8½d.

#### WEIGHTS AND MEASURES.

According to Correia:—

1 Bar = 20 Farcolas = 360 Arrateis = Lbs. 363. 1 Faracola = 18 Arrateis = Lbs. avordupois 18. 18. By these weights all spices were sold at Calicut.

He estimates the King of Portugal's profit on Vasco da Gama's expedition at six thousand per cent., although the spices brought back were not of the first quality.

#### RELIGIONS IN INDIA IN THE FIFTEENTH CENTURY.

The following notices of Christianity and other religions in India are taken from the notes of various travellers during the Fifteenth Century.

Niccolo Conti of Venice, who visited India about 1436, says: "At Malepur the body of Saint Thomas lies honour-

ably buried in a very large and beautiful Church: it is worshipped by heretics, who are called Nestorians, and inhabit this city to the number of a thousand. These Nestorians are scattered over all India, in like manner as are the Jews among us. All this province is called Malabar." Of the Buddhists in Siam he also says: "All worship idols; nevertheless, when they rise in the morning from their beds, they turn towards the east, and, with their hands joined together, say: "God in Trinity and His Law defend us." The monogamy of the Christians is also noted: "The inhabitants of Central India are allowed to marry only one wife; in the other parts of India polygamy prevails very generally, excepting among those Christians who have adopted the Nestorian heresy, who are spread over the whole of India, and confine themselves to one solitary mate." Socotra, "which produces Socotrine aloes, is six hundred miles in circumference, and is for the most part inhabited by Nestorian Christians."

Like Alvarez Velho, Niccolo Conti notices the similarity which existed between Brahmin temples and Christian Churches. "Gods are worshipped throughout all India, for whom they erect temples very similar to our own, the interior being painted with figures of different kinds. On solemn days these temples are adorned with flowers. Within they place their idols, some made of stone, some of gold, some of silver, and others of ivory. These idols are sometimes of the height of 60 feet. The modes of praying and of sacrificing among them are various. They enter the temple morning and evening, having first washed themselves in pure water; and sometimes, prostrating themselves upon the ground with hands and feet held up, repeat their prayers and kiss the ground, at others offer incense to their gods by burning spices and the wood of the aloe. The Indians situate on this side of the Ganges do not possess bells, but produce sound by striking together small brazen vessels. They also present feasts to their gods after the manner of the ancient heathens, which are afterwards distributed among the poor to be eaten. In the city of Cambaita the priests, standing before the idols of their gods, deliver a discourse to the people, in which they exhort them to the performance of their religious duties, and particularly urge upon them how acceptable it is to the gods that they should quit this life for their sake. Many present themselves who have determined upon self-immolation, having on their neck a broad circular piece of iron, the fore part of which is round and the hinder part extremely sharp.\* A chain attached to the fore part hangs suspended upon the breast, into which

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\* *N. B.*—Does this correspond to the quoits worn on their turbans by some Indian races?



the victims, sitting down with their legs drawn up and their neck bent, insert their feet. Then, on the speaker pronouncing certain words, they suddenly stretch out their legs, and, at the same time drawing up their neck, cut off their own head, yielding up their lives as a sacrifice to their idols. These men are regarded as saints." The Car of Juggernaut at Bizenegalia is also described. A powerful kingdom, towards the north in the longitude of Upper India was also reported to exist, which was wholly inhabited by Christians. Niccolo Conti fell in with an ambassador who was journeying from its King to Pope Eugenius IV. "The kingdom lies," he says, "twenty days journey from Cathay. Its king and all its inhabitants are Christians, but heretics, being said to be Nestorians; and the patriarch of that people had delegated him to collect more precise information concerning us. He asserted that their Churches were larger and more ornamented than ours, and were constructed entirely of tortoiseshell. Their patriarch possessed great wealth in gold and silver, receiving, at the annual census, one ounce of silver from each head of a family. I conversed with him through the medium of an Armenian interpreter, who understood the Turkish and Latin languages." He also met men who had come to the Pope from Ethiopia on matters concerning the faith. Ethiopia, otherwise known as Prester John's country, included Abyssinia and Gallaland, and, according to an inscription on Fra Mauri's Map, extended, in 1430, as far down the East Coast of Africa as Zanzibar. Consequently there is nothing strange in the existence of Christian communities scattered along that coast in 1498.

Anastasius Nikitin of Tiven in Russia, who, from 1468 to 1474, journeyed in Persia and India in company with a Tartar Ambassador who was bringing falcons from Ivan III, Grand Duke of all Russia, to some of his Tartar allies, found that Dabul was the southernmost port on the Bombay coast held by Mussulmans. He found numerous Buddhists in the northern part of Bombay and describes a statue of Buddha under the name of Boot, and distinguishes between Brahmins and Buddhists in his description of Southern India and Pegu. He fell in with Jews, but not with Christians. It is noticeable that these Jews "called the people of Shabat," a large emporium on the Coromandel coast, "Jews like themselves; but this is not true, for the people of Shabat are neither Jews, nor Mahomedans, nor Christians, but belong to a different Indian religion. They eat not with Khuds (Jews?), nor Mahomedans, and use no meat." Hieronimo di Santo Stefano, a Genoese, who visited India about 1490, journeying down the Red Sea and getting as far as Pegu, found at Calicut "as many as a thousand

houses inhabited by Christians," like Alvarez Velho, describes the district in which it is situated as "Upper India." We may remark that most of Vasco da Gama's interpreters spoke Genoese; so the coincidence is curious. He carefully distinguishes between the *Moorish* chief of Sumatra and the *Mahomedan* chief of Cambay.

Amongst non-Christian travellers, we may mention Abd-er-Razzak, who, in 1442, went on an embassy from Shah Rokh of Persia to several princes of Southern India. According to this writer, "Calicut is inhabited by Infidels, and situated on a hostile shore" (in other words it was Dar-ul-Harb). It had numerous Mussulman residents, who had their own Kadi, belonged to the sect of Schafei, and possessed two mosques, in which the Khotbah was regularly said. They dressed in magnificent attire after the manner of the Arabs, and manifested luxury in every particular. He distinguishes carefully between the different Hindoo castes, such as Brahmins, Djogis and others, to one of which, which practiced polyandry, the Samorim himself belonged. The inhabitants of Calicut were known as Tchini-betchagan, "sons of the Chinese." He fell in with only one Christian, named Nimeh-pezir, who was Daiang, or Eunuch who presides over the divan, to the king of Bidjanagar (Vijainagar).

Such was the state of religion in India in the Fifteenth Century, at the time of the arrival of Vasco da Gama.

The above particulars are collected from the translations of the voyages of Conti, Abd-er-Razzak, Nikitin and Hieronymo di Santo Stefano, edited by Mr. R. H. Major for the Hakluyt Society in 1857, and published under the title of "India in the Fifteenth Century," from Latin, Persian, Russian, and Italian sources.

#### INDIAN ARMIES.

We may note that Nikitin fully confirms the accounts of the enormous armies which could be mustered by the Princes of Central and Northern India. Muskets and siege artillery were well-known, and the towns were very scientifically fortified.

#### PRICES OF PRECIOUS STONES AND SPICES.

Those interested in the prices of precious stones and spices may usefully compare the tables given in Duarte Barbosa's "Description of the Coasts of East Africa and Malabar," pp. 208-224, compiled about 1514, which was translated from Portuguese into Spanish in 1524 by Min. Centurion, Genoese Ambassador to Spain, and subsequently translated from the Spanish by the Hon. H. J. Stanley for the Hakluyt Society in 1866. Both weights and coinage differ very con-



siderably from those given by either Alvarez Velho or Correia. Roughly speaking both the *Fanam* and the *Farazella* are reckoned at about one-third less by Barbosa than they are by either of the other authors.

His *Fanam* equals twenty reis of Portugal in place of thirty, making 36 Spanish maravedis, worth double those of the present standard, of which a real contains 34. Thus the *Fanam* was equal to two Spanish reals, or half a peseta=6*d.* English. According to Barbosa, 10 fanams made a cruzado.

Barbosa's "Account of the Weights and Measures of Portugal and of the Indies," runs as follows:—

#### IN PORTUGAL.

A pound of the old weight contains 14 oz. A pound of the new weight contains 16 oz.; eight quintals of the old weight make seven quintals of the new, and each quintal of the new weight is of 128 lbs. of 15 oz. Each old quintal is three-quarters and a half of a new quintal, and is of 128 lbs. of 14 oz each.

#### INDIES.

A farazola is 22 lbs. of 16oz., and 6 $\frac{2}{7}$  oz. more (Alvarez Velho says near 30 arratees). Twenty farazolas (the "Roteiro" says thirty) are one bahar. One bahar is four old quintals of Portugal (or four hundredweight English; a bahar according to the Roteiro=5 quintals). All spices and drugs, and anything which comes from India, is sold in Portugal by old weight; at present all the rest is sold by new weight.

#### ARTICLES OF TRADE.

Barbosa adds the following articles of trade to the list given by the Roteiro.

Borax, camphor used for anointing the idols, for eating and for the eyes, eaglewood, fresh tamarinds, sweet flags, used in medicine, indigo, adulterated with sand, amber, mirabolams of many kinds, sandalwood, white, coloured and lemon, "which grows in an island called Timor," evidently, therefore, a new discovery in Barbosa's day, spikenard, southernwood, wormwood, turbithi, the root of a species of convolvulus used as a purgative: calumba root, zedoary, fennel gum or sagapeno, used for diachylum, cardamums, tutty, a sublimate of calamine, cubebs from Java, opium, of the first quality from Aden, of the second quality from Cambay. Amongst precious stones he adds to the list diamonds, balasses, so-called from "Balaxayo" which is a kingdom of the Mainland near Pegu and Bengal, topazes, turquoises from Kerman, hyacinths, cat's eyes, chrysoliths, amethysts, zircon and emeralds.

Mr. Stanley was informed by Mr. Capt, the celebrated

jeweller of Geneva, that the proportions of the prices of the precious stones, according to their weight, given by Barbosa, are still very exact for uncut stones in the Indian market, and that the general accuracy of the details given by him is very great.

#### BARBOSA'S GEOGRAPHICAL KNOWLEDGE.

It may be noted that Barbosa, writing in 1514, is acquainted with the Moluccas, Timor, and China, and has a good and exact knowledge of the Persian Gulf. Niccolo Conti, seventy years before, had stated that beyond the Moluccas "the sea is not navigable, and the stormy atmosphere keeps navigators at a distance." It is difficult, therefore, to understand the limitation of geographical knowledge shown in the "Roteiro." As Duarte Barbosa was so well acquainted with the Persian Gulf, of which he gives a Periplus, it is probable that we can account for the omission to describe it in the "Roteiro" only by the fact that there was no direct communication between its ports and those of East Africa, where Vasco da Gama procured his pilots. Vessels using the monsoons when going to India stood north-east from Melinde to Calicut: those returning took their departure from Goa and made a landfall anywhere north of Mozambique; hence what trade there was between the Red Sea and the Gulf Ports probably went through India.

TABLE OF MONIES, WEIGHTS AND MEASURES.

				<i>Monies.</i>			£	s.	d.
I	Milreis	...	(Portuguese)	...	...	...	0	4	6
	= 1,000 Reis.								
I	Cruzado	...	"	...	...	...	0	2	3
	= 500 Reis.								
I	Xarafin	...	(Indian)	...	...	...	0	1	4' 2
	= 10 Fanoens = 300 Reis = 20 Fanoos.								
I	Fanam	...	"	...	...	...	0	0	1' 62
	= 30 Reis. = 2 Fanoos (Indian).								
I	Silver Peso	...	(Spanish)	...	...	...	0	4	3' 3
I	Metical	...	(Egyptian)	...	...	...	0	2	1' 16
	= 420 Reis.								
I	Fanoo	...	(Indian)	...	...	...	0	0	0' 81
	= 15 Reis.								
				<i>Weights.</i>			Lbs.	Av.	
I	Bachar	...	(Indian)	...	...	...			606
	= 20 Farazellas.								
I	Farazella	...	( " )	...	...	...			30.3
	= 30 Arratees.								
I	Arratel	...	(Portuguese)	...	...	...			1.01
I	Bachar of Spices	...	(Indian)	...	...	...			640
	= 5 quintals.								
I	Quintal	...	(Portuguese)	...	...	...			128
I	Metical	...	(Egyptian)	...	...	5/6ths of an English Drachm.			



*Measures of Length.*

1 Legoa	...	... (Portuguese)	... Miles 3, of 60 miles to a degree.
1 Pequy	...	... (Indian)	... 2 ft. 6 in.
1 Palm	...	... (Portuguese)	... 10 in.

CALENDAR OF VASCO DA GAMA'S VOYAGE TOGETHER WITH THE  
CORRESPONDING REFERENCES IN THE  
LUSIAD OF CAMOENS.

It may be pointed out that the Fourth and Fifth Cantos of the Lusiad appear to be based mainly upon the "Rotelro."

Date.	Event.	Of Lusiad. Canto. Stanza.
1497.		
Saturday, July 8.	Departure from Restello	... IV 81. V 3.
" " 15.	Sight the Canaries	...
Wednesday, " 26.	Reach Santa Maria on St. Thiago T. in C. Verd Is.	V. 4-10.
Thursday, August 3rd.	Leave St. Thiago ... (South Africa.)	V. 10.
Wednesday, Nov. 8.	Reach St. Elena Bay	V. 24-36.
Thursday, " 16.	Sail from St. Elena Bay	V. 36.
Wednesday, " 22.	Round Cape Point ...	V. 37-60.
Saturday " 25.	Anchor in St. Braz Bay (now Mossel Bay.)	V. 61 64.

Here they erect a cross and a stone beacon.

Thursday, Dec. 7.	Leave Mossel Bay ...	V. 65-67.
Friday, " 15.	Sight As Ilhas Chãos (Bird Island in Algoa Bay.)	"
Saturday, " 16.	Pass Cape Padrone (B. Diaz's last beacon.)	"
Sunday " 17.	Reach Rio do Ynfante (Great Vis River.)	"

This was the last point reached by B. Diaz in 1486.

Monday, " 25.	Have discovered seventy leagues of new coasts.	V. 65-67.
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This is the day on which Vasco da Gama is said to have discovered Natal,

1498.		
Friday, January 11.	Enter Rio do Cobre (Manice or Inhampura R.)	V. 69.
Thursday, January 15.	Sail from Rio do Cobre	V. 74-83.
Friday " 25.	Enter the Rio dos bous Signaes .. (Quillimane Mouth of Zambezi R.)	"

Here the First Beacon, St. Raphael's Beacon, is erected.

Saturday, Feby. 24.	Sail from Rio dos Bono Signaes. East Africa.	V. 7-83.
Thursday, March 1.	Sight Mozambique ...	...I. 43-44. V.84-85
Their stay at Mozambique described		I. 46-94.
Sunday, " 11.	Sail from Mozambique	I. 95-105.
Thursday, " 15.	Reenter Mozambique	" 12

Tuesday, March 26.	Sail from Mozambique for St. George's Islands	I. 95-105.
Thursday „ 29 (?)	Sail from St. George's Islands ...	„
Sunday, April 1.	Reach Querimha Islands ...	„
Wednesday, „ 4.	Sail from Querimha Islands ...	„
Friday, „ 6.	The S. Rafael grounds on the Baixos de S. Rafael, shoals off Pangani River.	„
Saturday, „ 7.	Refloated and sails for Mombasa.	„
Sunday „ 8. (Palm Sunday).	Reach Mombassa ...	II. 1-6. V. 84-85.
	Their stay at Mombassa described.	II. 7-63.
Thursday, April 12. (Holy Thursday).	Sail from Mombassa ...	II. 64-71.
Sunday, April 15. Easter Sunday).	Reach Melinde ...	II. 72-77. V. 85.
	Their stay at Melinde described.	II. 78. VI. 5.
Tuesday, April 24.	Sail from Melinde Indian Ocean.	VI 5.
	Voyage to Calicut (23 days at sea.)	VI. 6-91.
	India.	
Friday, May 17.	Sight land behind Calicut (Mt. Dilli.)	VI. 92-99.
Sunday, „ 19.	Arrive and anchor at Capua (Kappakatta.)	VII. 1-16.
Monday, „ 28.	Visit King of Calicut	VII. 42-66.
	Their stay at Calicut described ...	VII. 16, IX. 15.
At Calicut the Second Beacon, that of St. Gabreil, was erected.		
Monday, August 13.	Sail from Calicut ...	IX. 13-17.
Tuesday „ 28.	Diogo Diaz returns on board.	
Thursday „ 30.	Battle with Calicut flotilla.	
Monday, September 10.	Land at Compia, (Cananore).	
Saturday „ 15.	Reach S. Mary's Islands, (Mulki Rocks).	
Here the 3rd, or St. Mary's, Beacon was erected.		
Saturday, „ 15.	Sail from St. Mary's Islands.	
Thursday, „ 19.	Land on Malabar Coast near Vingorlá Rocks.	
Sunday „ 22.	Reach Anchediva Island.	
Friday, October 5.	Sail from Anchediva Island, Indian Ocean.	

The passage to Magadoxo takes 3 months less 3 da-

East Africa.

1499.

Wednesday, Jany. 2.	Sight Magadoxo.	
Saturday, „ 5.	Fight off Patté (Patta).	
Monday, „ 9.	Arrive at Melinde.	
Here a Beacon, still existing, was erected.		
Friday, „ 11.	Sail from Melinde.	
Saturday „ 12.	Pass Mombassa.	
Sunday, January 12.	Reach S. Raphael's Shoals.	
„ „ 20.	Sail from S. Raphael's Shoals.	
Monday „ 21.	Sight Jamgiber, (Island of Zanzibar).	
Friday, February 1.	Anchor at S. George's Islands. (Sail same day).	



Here a Beacon was erected on Mass Island.  
(South Africa.)

- |                  |     |                              |            |
|------------------|-----|------------------------------|------------|
| Sunday, March    | 3.  | Reach Mossel Bay.            |            |
| Tuesday, „       | 12. | Sail from Mossel Bay.        |            |
| Wednesday, „     | 20. | Pass Cape of Good Hope.      |            |
|                  |     | West Africa.                 |            |
| Thursday, April  | 25. | Reach Soundings on the Rio   |            |
|                  |     | Grande Banks.                |            |
| „                | 25. | The ships part company.      |            |
| Wednesday, July  | 10. | Nicholas Coelho reached the  |            |
|                  |     | Bar of the Tagus.            |            |
| Thursday, August | 29. | Vasco da Gama reaches Lisbon | X. 142-14. |

The description of the Return Voyage to Portugal given in the Ninth and Tenth Cantos of the Lusiad is purely imaginary.

## IN CŒLO QUIES.

Never to wake again,  
Never to be where human love rejoices,  
Nor hear the earth's glad voices  
Raised after storm and rain.

Nor evermore behold  
The shifting sheen and shadows of the Ocean,  
Nor hear his rhythmic motion  
Upon the shingles rolled.

Nor watch the summer light  
Make checker on the mossy bank of fountains,  
Nor, from the lonely mountains,  
Number the stars of night !

\* \* \* \*

Ah ! Yet to miss the pain,  
The care, of yesterday and of to-morrow,  
The fear that comes of sorrow,  
By waking not again.

While the delivered Soul,  
Free from the task of hearing and seeing,  
Renews her happy being,  
Plunged in the boundless Whole !

So comes to those who weep,  
With contrite heart His holy footstool pressing,  
—To others bane or blessing—  
To His beloved, Sleep !

H. G. K.



## THE QUARTER.

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**I**N our last quarterly retrospect we remarked that, as far as general politics were concerned, the most noteworthy feature of the previous three months was the marked improvement that had taken place in international relations. That improvement has advanced still further in the period now under review. Not only have the negotiations with France, which were then stated to be progressing favourably been brought to a happy conclusion, but an understanding of hardly less importance has been arrived at with Russia. Again, as when we last wrote, the only note of discord comes from the United States, and the breakdown of the Commission for the adjustment of disputed matters between the two Powers in North America which we had already recorded has become emphasised by further exchange of opinions, and seems to be regarded on both sides as definitive.

By the Anglo-French agreement, the terms of which were published in Paris on the 22nd March in a semi-official Note, a line is drawn, running roughly north and south through the borderlands in dispute, to the west of which England, and to the east of which France, pledges herself to acquire neither territory nor political influence. From the northern frontier of the Congo State to  $11^{\circ}$  N. this line follows the watershed of the Nile and Congo, and from  $11^{\circ}$  N. to  $15^{\circ}$  W. it is left to be traced by a mixed Commission in such a way that it shall leave Darfur to England and Wadai to France. From a point near the southern frontier of Tripoli, again, to the northern frontier of Darfur, the line is traced south-east from the point of intersection of the sixteenth degree of East Longitude with the Tropic of Cancer until it cuts the twenty-fourth degree of East Longitude, after which it follows that degree. This gives England the entire basin of the Upper Nile up to the Great Lakes, while it leaves open to France Bagirmi, Wadai and Kanem to the north and east of Lake Chad and the Tibesti region to the south-east of Tripoli. At the same time the treaty extends to the country between Lake Chad and the Upper Nile, the provisions of the Niger Convention which confer on the citizens of either nation equal commercial rights in certain districts of West Africa. By this provision, says the *Times*, France obtains commercial access to the Nile from the fifth to beyond the fourteenth degree of North Latitude, while England acquires

similar rights, not only over the caravan routes between Lake Chad and the Nile basin, but on the Mbomu and in the basin of the Upper Congo. The agreement has been favourably received in England, where it is understood, perhaps prematurely, to give the quietus to the Egyptian question, and on the Continent of Europe, except in Italy. That it makes for good feeling between England and France, and for the peace of Europe generally, can hardly be doubted; and, in view of all the circumstances, it may justly be regarded as one of the most important events of recent history.

The agreement between England and Russia has exclusive reference to the interests of the two countries in China, the preamble stating that both countries undertake to uphold—that is, presumably, not themselves to violate—the integrity and independence of China; and the Note—for that is the form which the agreement takes—providing against any clashing of interests in respect of railway development in Manchuria, on the one hand, or the valley of the Yangtse Kiang, on the other. It also settles the long pending dispute regarding the Niu-Chwang railway.

Referring to the understanding in his speech at the Royal Academy banquet, Lord Salisbury spoke in very guarded language. “We have signed,” he said, “a gratifying agreement with the Russian Government. I do not wish to exaggerate its extent; but, in view of the relations which, during the last half century, have from time to time prevailed between this country and that most important Empire, I think it is a matter of congratulation that we have come to an agreement with respect to affairs in China which *to a certain extent* will, I think, prevent any likelihood of any collision between our interests or our objects for the future.”

In estimating the importance of the agreement, the reflection will be apt to occur to students of recent history, that Russia has always shown herself equally ready to make promises and to break them.

The following is the text of the Notes exchanged between the two Powers, in connexion with which it should be added that the Russian Government has already set up a claim that under the explanatory clause with which the second of the notes concludes, it is entitled to extend its railway system to Peking, a claim which certainly ought to have been foreseen, but which is regarded with anything but complacence by public opinion in England.

SIR C. SCOTT TO COUNT MURAVIEFF.

The undersigned British Ambassador duly authorised to that effect has the honour to make the following declaration to His Excellency Count Muravieff, Russian Minister for Foreign Affairs.



Great Britain and Russia, animated by a sincere desire to avoid in China all cause of conflict on questions where their interests meet, and taking into consideration the economic and geographical gravitations of certain parts of that Empire, have agreed as follows :—

1. Great Britain engages not to seek for her own account, or on behalf of British subjects, or of others, any railway concession to the North of the Great Wall of China, and not to obstruct, directly or indirectly, applications for railway concerns in that region supported by the Russian Government.

2. Russia, on her part, engages not to seek for her own account, or on behalf of Russian subjects, or of others, any railway concessions on the basin of the Yang-tse, and not to obstruct, directly or indirectly, applications for railway concessions in that region supported by the British Government.

The two contracting parties, having nowise in view to infringe in any way the sovereign rights of China or existing Treaties, will not fail to communicate to the Chinese Government the present arrangement, which, by averting all cause of complications between them, is of a nature to consolidate peace in the Far East, and to serve the primordial interests of China herself.

(Signed) CHARLES S. SCOTT.

St. Petersburg, April 28, 1899.

The Russian Note to Sir Charles Scott, signed by Count Muravieff, "duly authorised to that effect," is identical in terms with that of the British Note, the only difference being that paragraphs 1 and 2 are therein simply transposed.

The second Identical Note, subscribed to by both the British Ambassador at St. Petersburg and Count Muravieff, the Russian Minister, is an addendum to the other, and is in the following terms :—

In order to complete the Notes exchanged this day respecting the partition of spheres for concessions for the construction and working of railways in China, it has been agreed to record in the present additional Note the agreement arrived at with regard to the line Shanghaikuan-Neu-chang, for the construction of which a loan has been already contracted by the Chinese Government with the Shanghai-Honkong Bank, acting on behalf of the British and Chinese Corporation.

The general arrangement established by the above-mentioned Notes is not to infringe in any way the rights acquired under the said Loan Contract, and the Chinese Government is at liberty to appoint both an English Engineer and a European Accountant to supervise the construction of the line in question and the expenditure of the money appropriated to it. But it remains well understood that this fact cannot be taken as

constituting a right of property or foreign control, and that the line in question is to remain a Chinese line, subject to the control of the Chinese Government, and cannot be mortgaged or alienated to a non-Chinese Company.

As regards the branch line from Siaoheichan to Sinminting, in addition to the aforesaid restrictions, it has been agreed that it is to be constructed by China herself, who may permit European, not necessarily British, Engineers to periodically inspect it and to verify and certify that the works are being properly executed.

The present special agreement is naturally not to interfere in any way with the right of the Russian Government to support, if it thinks fit, applications of Russian subjects or establishments for concessions for railways which, starting from the main Manchurian line in a south-westerly direction, would traverse the region in which the Chinese line terminating at Sinminting and Neu-chang is to be constructed.

In his Report to the Court of Cassation on the monstrous Dreyfus Case, M. Ballot-Beaupré, pronounced strongly in favour of revision, insisting on the innocence of the prisoner and maintaining that all the evidence pointed to Major Esterhazy as the real culprit. This view which has been unanimously confirmed by the Court, is said to be based largely on the discovery of two letters from Esterhazy written on peculiar paper, identical with that of the famous *bordereau*. The course of the enquiry has been marked by astounding revelations pointing clearly to a deliberate conspiracy, supported by forgery, to which high military officers were parties, for the purpose of obtaining and upholding the conviction of Dreyfus. It is not too much to say that these revelations have revolted the conscience of Europe, or to anticipate that they will create a strong re-action against the spirit of militarism of which they are a natural though not a necessary, outcome. The sensation created by them in Paris is said to be immense. That the anti-Revisionists should have taken refuge in a charge of bribery against M. Beaupré, is only in keeping with their attitude throughout the affair, and it must be regretfully said, with the temper of the mass of the French people in the face of calamity, or what they believe to be calamity. The decision has, however, on the whole, been received with equanimity by the country at large.

Among the sensational incidents of the case has been the publication in the *Times* of a statement of Major Esterhazy in which he declares that he forged the *bordereau* by order of Colonel Sandherr, and that he is in possession of documents which would ruin the honour of certain French Generals.



The Peace Conference held its first sitting at the Hague on the 18th ultimo when the business seems to have been confined to speech-making of a congratulatory and complimentary character. At the second meeting, Baron de Staal, the President and Representative of the Czar, invited the Conference to deal first with the questions of mediation and arbitration; then with that of the humanisation of war, and lastly with that of the reduction of national armaments. Compared with the anticipations which the Czar's original manifesto was calculated to foster, the programme of the Conference is a modest one. That it will do much to diminish the risk of war is hardly to be hoped, since, owing to the fact that matters which are the subject of extant treaties are excluded from its purview, it can do very little towards removing potential causes of quarrel. That it may effect something in the direction of humanising the methods of war is possible enough; but experience shows that, so far from diminishing the chances of war, its humanisation tends rather to increase them.

The representative of Great Britain is understood to have submitted a scheme for a permanent tribunal of arbitration; but the assent of Germany thereto is doubtful.

The Committee of the Conference, it may be noted by the way, have condemned the use of the Dum-Dum bullet.

Next to the conclusion of the Anglo-French and Anglo-Russian agreements, the most interesting event in international politics is, perhaps, the announcement made by Queen Christina at the opening of the Spanish Cortes, that her Government had signed a convention ceding the Caroline and Pellew Islands and the Ladrones to Germany, subject to their ratification. It has since transpired that the consideration for this cession is the payment of a million sterling by Germany, who, at the same time, agrees to allow Spain to retain a coaling station at each group of islands and to defend these stations in the event of war.

Except for strategical purposes, the islands probably possess very little value.

There has been a recrudescence of the Uitlander agitation in the Transvaal owing, as is alleged, to the failure of President Krüger to redeem his recent promises of redress, especially in the matter of the franchise. An interview has been held between President Kruger and Sir Alfred Milner, for the purpose of discussing the situation, but no satisfactory arrangement has been arrived at.

In the Sudan all active opposition to the British occupation appears to be at an end; our rule is popular with the people of the country, and the Mahdi, who is reported to be short of provisions, has made no further advance.

The mutiny in Uganda has, to all appearances, received its quietus, in the defeat of Kabarega and his capture, together with that of Mwanga, by Lieut.-Colonel Evatt.

The opposition to the American occupation in the Philippines still continues, though there are signs that it is dying out. The insurgents have made proposals for a Conference to arrange terms of peace; and the United States Government is understood to have offered them a government similar to that established in Cuba, pending the settlement of the country.

After a certain amount of fighting, in the course of which an Anglo-American force was ambuscaded, and suffered some loss, the disturbances in Samoa have led to the assumption of the Provisional Government by a joint English, American and German Commission.

Owing to the opposition of the Chinese in Kowloon, where the Hong-Kong regiment was fired on by Chinese soldiers, the city has been occupied by a British force, and it is expected that the clause of the Convention reserving the sovereignty of the place to China will be abrogated.

The plague has broken out in Alexandria, where eight persons, including four Europeans, are reported to have been attacked up to date.

The House of Commons re-assembled on the 10th April; and on the 13th the Chancellor of the Exchequer made his Budget Statement, which showed that, deducting the amount that went to Local Taxation account, the exchequer had received during the past year £108,336,000, as compared with £106,614,000 in 1897, and with an estimate of £107,110,000, while the net expenditure had been £108,150,000, including £7,577,000 set aside for reduction of debt. For the current year the estimated expenditure was £112,927,000, an increase of £6,098,000 over that estimated for the past year, and the estimated revenue £110,287,000, which, as it stood, would leave a deficit of £2,640,000. He proposed, however, to reduce the fixed debt charge from £25,000,000 to £23,000,000 on account of interest and reduction combined, and at the same time to prolong the Savings Bank Annuities, and to replace the book debt of 13 millions to the Savings Banks and the 15 millions of Consols held for them by terminable annuities of £746,000 and £870,000 respectively. The result of these changes would be that the expenditure to be provided would be reduced to £110,927,000, out of which £5,815,000 would be for reduction of debt, and the deficit, on the basis of existing taxation, would be £640,000. To balance the account and leave a reasonable margin, he, therefore, further proposed to impose two new stamp duties and raise the stamp duty on Companies' Capital, which would provide £450,000; and to



raise the existing wine duties and impose a duty of 3s. a gallon on still wines imported in bottle, which would produce £420,000. The total new taxation proposed thus amounted to £870,000, so that the above-mentioned deficit of £640,000 would be converted into a surplus of £230,000.

After some discussion in the course of which Sir H. Fowler and Sir W. Harcourt strongly condemned the policy of the Chancellor of the Exchequer with regard to the debt, the formal Resolutions sanctioning the proposed changes were agreed to, and the Budget Bill was finally passed after the Chancellor of the Exchequer had consented to some reduction of the new wine duties.

Among the more exciting events, if we should not say the only exciting event, of the session was the debate on the second reading of the Church Discipline Bill, moved by Mr. McArthur. The Bill, which followed on a Resolution of the House condemning lawlessness in the Church and carried by 200 to 14, proposed to create a long list of new offences, to do away with the Episcopal veto, and to substitute deprivation for imprisonment as a punishment. It was rejected in a crowded House, and in the presence of a large number of "strangers," by a majority of 310 to 156, in favour of a Government amendment, moved by the Attorney General, to the effect "that this House, while not prepared to accept a measure which creates fresh offences and ignores the authority of the Bishops in maintaining the discipline of the Church, is of opinion that, if the efforts now being made by the Archbishops and Bishops to secure the due obedience of the clergy are not speedily effectual, further legislation will be required to maintain the observance of the existing laws of Church and realm."

Among other business of the session, it may be noted that the Government of London Bill has made good progress in Committee; a motion by Mr. Dillon to repeal the Irish Crimes Bill has been rejected by 224 to 141, and a new Committee has been appointed to consider the Old Age Pensions question, while in the House of Lords, the London Water Bill has been read a third time, and the Money Lending Bill has passed through Committee.

The Bill passed by the Imperial Legislature in this country empowering the Government to impose countervailing duties on bounty-fed foreign sugar, has been the subject of a series of interpellations in the House of Commons, in which Mr. James M. Maclean has taken a leading part; and Sir Henry Fowler has given notice of his intention to move for an address to the Crown asking Her Majesty to disallow the Bill.

The second instalment of the evidence taken by the Indian

Currency Commission has been published ; and it is understood that the draft Report of the Commission will be presented by Sir Henry Fowler at its next sitting.

In India, the latter portion of the period under review, which has been generally uneventful, has been marked by a gratifying subsidence of the Plague. In the Madras Presidency the disease has almost entirely disappeared ; in Bombay the number of cases has fallen to below twenty daily ; in Calcutta the few cases that continue to occur are sporadic, and the disease has shown little tendency to spread beyond the limits of the town, and, though it still lingers in part of the Punjab, it is making but little, if any, headway.

The select Committee on the Calcutta Municipal Act Amendment Bill have submitted their Report, which leaves the principle and the constitutional provisions of the measure practically unaltered, but recommends important modifications in details.

An important set of new Mining Rules has been issued by the Government of India, which, if they still leave something to be desired, are, on the whole, of a liberal and reasonable character, and may be expected to lead to a considerable development of mining enterprise in India.

The scheme for the reorganization of the subordinate Medical Department has been sanctioned by the Secretary of State and is to take effect from the 1st April last. Resolutions have also been issued by the Government of India reorganising the graded list of the Political Department, and prescribing new regulations for the use of Church of England Churches in India for the services of other denominations. Under these Rules the Churches provided by Government may, with the consent of the Bishop of the Diocese, be used for their respective services by Scotch Chaplains on the regular Establishment and by Presbyterian and Wesleyan Ministers officiating with the troops. The hours for the purpose are to be fixed by the Bishop of the Diocese or the Chaplain of the Church concerned. The care of the Church, its furniture, and expenditure, and also the control of the Church establishment are to remain exclusively in the hands of the Chaplain. The Bishop of the Diocese may withdraw his assent to the use of any Church by other denominations at any time he thinks fit. On the other hand, in cases of dissatisfaction, the Senior Chaplain of the Church of Scotland, or the General Superintendent of the Wesleyan Church, may refer, through the General Commanding the District, to the Lieutenant-General of the Command, with a view to an arrangement with the Bishop of the Diocese ; further reference, in case of disagreement, being permissible to the Metropolitan for final decision.



Among the few noteworthy events of the quarter has been a wholesale strike of the signallers on the Great Indian Peninsula Railway. The traffic of the Company's lines was seriously impeded for some days ; but the administration behaved with praiseworthy firmness, as well as energy ; with the help of soldier signallers, new recruits and men lent by other lines, the more urgent messages were provided for, and, though it was necessary, for a time, to close the railway telegraph service against the general public, matters have now been restored to their normal condition, and the strikers have very properly been dismissed the Company's service.

The death sentences passed upon Wasadew Chapekar and Mahadev Ranade for the murders of the Dravids, and on Balakrishna Chapekar for the murder of Mr. Ayerst, at Poona, have been carried out.

The meteorological conditions are so far reported to be not altogether favourable to the advance of the monsoon ; but any forecast of the prospect would at present be premature, and the agricultural outlook is otherwise generally favourable.

The Obituary of the Quarter includes the names of Mlle. Rosa Bonheur ; Mr. Birket Foster ; Dr. G. W. Leitner ; Sir Monier Monier-Williams ; Professor O. C. Marsh ; General Bingham ; Mr. T. E. Ellis, M. P. ; the Baroness de Hirsch ; Miss Rose Leclercq ; Surgeon-Major G. C. Wallich ; the Hon. James Service ; Sir William Roberts, M. D., F. R. S. ; Lady Frere , General Sir John Field, K. C. B. ; General Sir C. G. Arbuthnot ; Sir James Wright, C. B. ; Lt.-General Sir H. LeGeyt Bruce, K.C.B. ; the Duchess of Marlborough ; Sir J. R. Mowbray ; Col. Sir Robert Warburton, K. C. I. E., C. S. I. ; Mr. Jabez Hogg ; Mr. Joseph Wolf ; the Duke of Beaufort ; General R. D. Ardagh ; Dr. Buchner ; Baron de Malortie and Senor Castelar.

*June 15, 1899.*

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## SUMMARY OF ANNUAL REPORTS.

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*Report on the Administration of Bengal, 1897-98.* Calcutta : Bengal Secretariat Press, 1899.

THE General Summary of the Bengal Administration Report seems to be so styled on the *lucus a non lucendo* principle. It contains a fairly complete account in brief of distinctive features in the administration work of the year, but in other respects it gives very little idea of the contents of the Report ; and in respect of such important matters as the state of the public health, outturn of crops, and course of prices, it is practically a blank. It is a little irritating to the publicist desirous of economising time and effort to be put off, under the head of "agriculture," for example, with a paragraph about the opening of agricultural classes in connection with the Sibpur Engineering College, and another regarding legislation for the regulation of mines in India, or, under that of sanitation, with four paragraphs confined entirely to a description of a scheme of re-organisation of the department which was not carried out ; a statement of certain official opinions submitted on the subject of pollution of the river Hooghly ; an announcement that a certain sum was granted for the improvement of the sanitary condition of the Terai and the establishment of certain out-door dispensaries, and an account of the special precautions adopted against Plague.

Turning to the body of the Report, we learn that the season was generally very favourable to the growth of the *Bhadoi* crops ; very favourable, on the whole, to that of the *aman* paddy, and favourable to that of all kinds of *rabi* crops ; that the cultivated area, in the case of all these classes of crops, showed a more or less considerable increase as compared with the previous year, and that the average outturn, was, in the case of the *bhadoi* about  $16\frac{1}{2}$  annas, in that of the *aman* paddy no less than 18 annas, and in that of the *rabi*  $15\frac{1}{2}$  annas. Prices of food grains generally fell considerably after the winter harvest, and the year was comparatively healthy, the number of deaths registered falling from 2,428,830 to 2,341,632, the fall being specially marked in the case of cholera and fever, and the proportion from 34·17 to 32·94 per thousand of population. On the other hand, the number of births registered continued to reflect the depression caused by the late distress, and fell from 2,703,486 to 2,625,844, the proportion to population being 36·94 per thousand only, as compared with 38·03 per thousand in 1869-97.



In marked contrast with the general improvement in the public health, the death-rate in Calcutta rose from 35.7 to 36.1, and that in Howrah from 37.34 to 38.49 per thousand, rates which, though somewhat lower than those for 1895, are higher than any recorded during the previous six years, and this in spite of a great diminution in the mortality from cholera.

It is unsatisfactory to note that, in spite of the generally favourable economic conditions of the year, the number of offences reported rose from 351,882 to 355,448, and that of offences against property alone from 113,551 to 122,703. It is to be noted, too, that, while there was a considerable increase in the number of persons tried, there was a small decrease in the percentage of convictions to persons. A satisfactory feature of the criminal administration of the year was a large diminution in the number of murders, and an entire cessation of murders from gun-shot, in the notorious district of Backergunge.

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*General Report on Public Instruction in Bengal for 1897-98,*  
Calcutta : Bengal Secretariat Press. 1898.

THE main feature in the educational history of the year in the Lower Provinces is a falling off of 3,334 in the number of schools, and 49,960 in that of pupils, following upon similar losses of 3,006 and 3,227 respectively in the previous year. In the case of public schools, which showed a diminution of 2,540, this falling off was almost entirely confined to lower primary education ; but in that of private institutions, which suffered a loss of 794 schools and 6,259 pupils, it was common to all classes. The general result is attributed, no doubt rightly, to the distress that prevailed during the year owing to high prices. In spite of it, it should be added, the figures for the past ten years show a net gain of 1,031 schools and 170,879 pupils, or at the average rate of 103 schools and 17,087 pupils a year ; and it is estimated that 27.8 per cent. of the total number of boys, and 1.9 per cent. of that of girls, of school-going age are at present receiving some sort of education. It is noteworthy that the percentage of Hindu pupils to the total number increased by 1.2, while that of Mohammedan pupils showed a decrease of 1 per cent. and that of pupils of other religions remained practically stationary.

In the case of university education, the number of students in Government Colleges advanced from 1,632 to 1,665, as compared with 1,685 in 1894 ; the number of students of aided Colleges fell from 1,459 to 1,370, as compared with 1,291 in 1894, and that of students of unaided Colleges rose from 3,236 to 3,363, which compares with 3,192 in 1894. In the First Arts Examination 1,256 candidates passed, out of a total number of

2,724 from all Colleges, the percentage of successes being 55 in the case of Government, 49 in that of aided, 43 in that unaided, and 46 in that of all Colleges. The latter figure compares with a percentage of 48 in the previous year.

At the B. A. Examination, 12 candidates obtained 1st class Honours, 77 2nd class, and 302 passed, or a total of 391 passes, out of 1,588 candidates, the percentages of total successes being 35·2 ; 22·3, and 19·9 in the cases of Government, aided and unaided, Colleges, respectively. At the M. A. Examination 83 candidates passed out of a total number of 172, as compared with 83 out of a total of 194 in the previous year. The largest number of candidates (86) was for the Degree in English. In other languages there were only five candidates, none of whom took up Latin or Persian, and only one Greek and one Arabic. Five candidates took up History, 18 Philosophy, 35 Mathematics, 7 Chemistry, 15 Physics, and only 1 Botany.

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*Detailed Report of an Archæological tour with the Buner Field Force.* By M. A. Stein Ph. D., Principal Oriental College, Lahore. Lahore : Punjab Government Press. 1898.

A Military expedition is not the most favourable opportunity for an archæological tour. The movements of the explorer are necessarily too much restricted by military considerations, and the strained relations between the invaders and the people of the country add sensibly to the difficulty of procuring information. As the tract from which Major Deane's puzzling inscriptions in unknown characters had been obtained, Buner, hitherto inaccessible to European investigators, was expected to yield important results. As a matter of fact, it yielded to Dr. Stein little or nothing of special interest. Even the inscriptions previously copied could not be traced, and, as far as we can discover, only one sculptured monument of small importance was unearthed. The Report is eked out with some interesting notes on the ancient topography of the country ; but it may be doubted whether the remainder of it is worth the cost of printing the 52 pp. which it covers, though, needless to say, this is due to no lack of zeal or effort on the part of Dr. Stein.

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## CRITICAL NOTICES.

*A Manual of Ethics.* By JOHN S. MACKENZIE, M.A., Professor of Logic and Philosophy in the University College of South Wales and Monmouthshire ; formerly Fellow of Trinity College, Cambridge. (The University Tutorial Series.) Third Edition. Revised, enlarged, and in part re-written. London. W. B. Clive, University Correspondence College Press.

THE stand-point adopted by the writer of this, on the whole, admirable manual of Ethics is that of the school of idealism founded by Kant, and developed by Hegel, Green and others. The ethical *ought*, from this point of view, is "the voice of the true self within us, passing judgment upon the self as it appears in its incomplete development. Conscience, from this point of view, may be said to be simply the sense that we are not *ourselves* ; and the voice of duty is the voice that says, 'to thine own self be true.'" In other words, "Ethics has for its primary function to bring out the significance of the moral life *in relation to the ideal that is involved in it*, and this process is at the same time a criticism of it."

To this it should be added, by way of explanation, that the true self here intended is the social self—that self which finds its realisation in the relations of persons to one another. "It embodies itself in literature and art, in the laws of a State, in the counsels of perfection which societies gradually form for themselves." The supreme end of the individual will thus be the perfecting, not simply of his own life, but also of that of the society to which he belongs. We must, in short, negate the *merely* individual self, and realise ourselves by sacrificing ourselves ; and, the more fully we do this, the nearer we approach to a universal point of view. "No doubt, it must always be necessary for us to take more thought for our own individual development than for that of anyone else ; because each one best understands his own individual needs, and has the best means of working out his own nature to its perfection. But when this is done from the point of view of the whole, it is no longer properly to be described as Egoism. It is self-realisation, but it is self-realisation for the sake of the whole."

The realisation of the true self, or, as it is otherwise put, consistency with the true self, being the end to be aimed at, according to the view adopted by the author of the Manual, it remains to see what position happiness occupies in the system. "The error in the conception of happiness, as formerly interpreted, lay in its being thought of simply as the gratification of each single desire, or of the greatest possible sum of desires. *We now see that the end is to be found rather*

*in the systematisation of desire.* Now, happiness in the true sense of the word, as distinguished from transient pleasures, consists just in the consciousness of the realisation of such a systematic content. It is the form of feeling which accompanies the harmonious adjustment of the various elements in our lives with an ideal unity. Happiness, therefore, in this sense, though not, properly speaking, the end at which we aim, is an inseparable and essential element in its attainment."

Mr. Mackenzie's destructive criticism of rival theories is, throughout, very able; but it is not always convincing. It seems to us to be specially unconvincing in the case of his treatment of Hedonism. With special reference, for instance, to the universalistic form of the theory, he says: "Mill's argument is stated thus in the fourth chapter of his *Utilitarianism*: 'No reason can be given why the general happiness is desirable, except that each person, so far as he believes it to be attainable, desires his own happiness. This, however, being a fact, we have not only all the proof which the case admits of, but all which it is possible to require, that happiness is a good: that each person's happiness is a good to that person, and the general happiness, therefore, a good to the aggregate of persons. He then goes on to argue that happiness is the only good, on the ground that we have already noticed—*viz.*, that to desire a thing and to find it pleasant are but two ways of expressing the same thing. Now it would be difficult to collect in a short space so many fallacies as are here committed. We have already noticed the confusion in the last point, due to the ambiguity in the word 'pleasure.' We have also noticed the confusion with regard to the meaning of the word 'desirable,' which vitiates the first part of the argument. It only remains to notice the fallacy involved in the inference that 'the general happiness is a good to the aggregate of all persons.' The fallacy is that which is known in logic as 'the fallacy of composition.' It is inferred that, because my pleasures are a good to me, yours to you, his to him, and so on, therefore, my pleasures+your pleasures+his pleasures are a good to me+you+him. *It is forgotten that neither the pleasures nor the persons are capable of being made into an aggregate.* It is as if we should argue that because each one of a hundred soldiers is six feet high, therefore the whole company is six hundred feet high."

The objection is subtle, though not new, and the distinction on which it is based is a real one. But there is an obvious answer to it. It is quite true that the pleasures of A, B and C cannot be added together so as to form an aggregate. But it is quite unnecessary that they should form an aggregate in order to make the greatest good of the greatest number a valid criterion of rightness of conduct; if for no other reason,



because it is mathematically obvious that the conditions which result in the greatest good of the greatest number are those which afford the best chance of good to each individual of the group. It is remarkable that Mill, in dealing with the question, should have overlooked this, or, if he recognised it, that he should not have explicitly stated it.

*Maha-Bharata. The Epic of Ancient India Condensed into English Verse.* By Romesh Chunder Dutt, C.I.E., with an Introduction by The Right Honourable F. Max Müller. Twelve photogravures from original illustrations designed from Indian sources by E. Stuart Hardy, London: J. M. Dent & Co., 1899.

MR. Max Müller, in his scholarly and interesting introduction, describes this version "of the Mahabharata, as a kind of photographic representation, a snap-shot, as it were, of the old poem." The description is not strictly accurate, as much of the detail which a photographer would reproduce is omitted in the condensed version. Nevertheless, as regards the effect produced on the reader, it is apt enough. Regarded as English verse, Mr. Dutt's rendering is not only correct and dignified, but maintains on the whole a more than respectable poetic level, while there is little or nothing in it to stamp it as the production of a foreigner. Of the illustrations we cannot speak quite so favourably. They strike us as, on the whole, lacking in dignity, and are suggestive, in some cases, of a lower state of civilisation than we are accustomed to associate with the period of the Mahabharata in Aryavarta. The artist, it may be added, has been distinctly more successful with his female than with his male figures. Altogether the production is to be warmly welcomed and may be expected to increase the sympathy of England for the people of India.

*The Game and the Candle.* By RHODA BROUGHTON, Macmillan & Co.

WHATEVER may be Miss Rhoda Broughton's faults it cannot be laid to her charge that she mystifies her readers by excess of plot or by a multiplicity of characters. Nor does she, as a rule, put any undue strain on the attention or intellect of those who go to her for amusement by putting before them abstruse social problems or knotty controversial questions. *The Game and the Candle* is slight in the extreme and the moral it is intended to convey would seem to be that it is worse than folly to give up everything and everybody for what the writer describes as a "huge egotism of passion;" and that an absorbing interest in one person—even though that person is not oneself—is nothing better than a "gigantic selfishness." And looked at from a worldly and cynical point of

view, a short-sighted form of selfishness to boot. The heroine plays the game for all she is worth and it proves to be not worth the merest rushlight. It is perhaps late in the day to criticise Rhoda Broughton's style which has remained practically unaltered and unaffected by criticism for thirty odd years, and will probably resist all assaults upon it to the end, so we will content ourselves with saying that what change there is in it does not appear to us to be for the better. Awkwardness of construction and slangy abbreviations abound and help to mar an otherwise harmless, if somewhat painful, tale. In one trifling detail we are a little puzzled. Was the name of Mrs. Etherage's husband Henry or Robert?

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*Off the High Road.* By ELEANOR PRICE, Macmillan & Co., London.

*Off the High Road* is a very simply told romance which will doubtless be appreciated by those who read a book merely for the story and are not over particular as to probability or distinction of style. A young and beautiful girl, wishing to escape from the tyranny of her guardians, disappears suddenly from her home and advertises in a provincial newspaper for a hiding place.

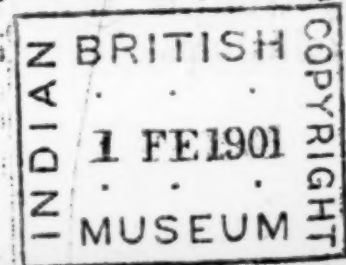
"Will any kind people, living off the high road, receive a person in serious trouble, homeless and friendless? Address, M., 50, Crossway Street, Manningham," is the form of her appeal.

Contrary, we think, to probability but necessarily, for the purposes of the tale good Samaritans are at once found ready to rush off, and without investigation take the stranger in. Needless perhaps to say, she, proves an angel unawares and a more or less interesting little love story is spun out of very simple threads. There is nothing in the style to raise it above the common place, but it may be recommended as a perfectly wholesome and unobjectionable book which not even, the most prudish of mothers need fear to put into the hands of her daughters.

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*Poetical Works of Alfred Lord Tennyson, Poet Laureate* (Globe Edition). London: Macmillan & Co., Limited; New York: The Macmillan Company, 1899.

ALL that need be said of this edition of the works of the late Laureate is that it is not only a marvel of cheapness, but is very accurately and clearly printed, under which circumstances it would be hardly reasonable to complain that it is not wholly free from the defects of the first of these qualities, inasmuch as it is printed on paper which, though otherwise of excellent quality, is very thin.





## ACKNOWLEDGMENTS.

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